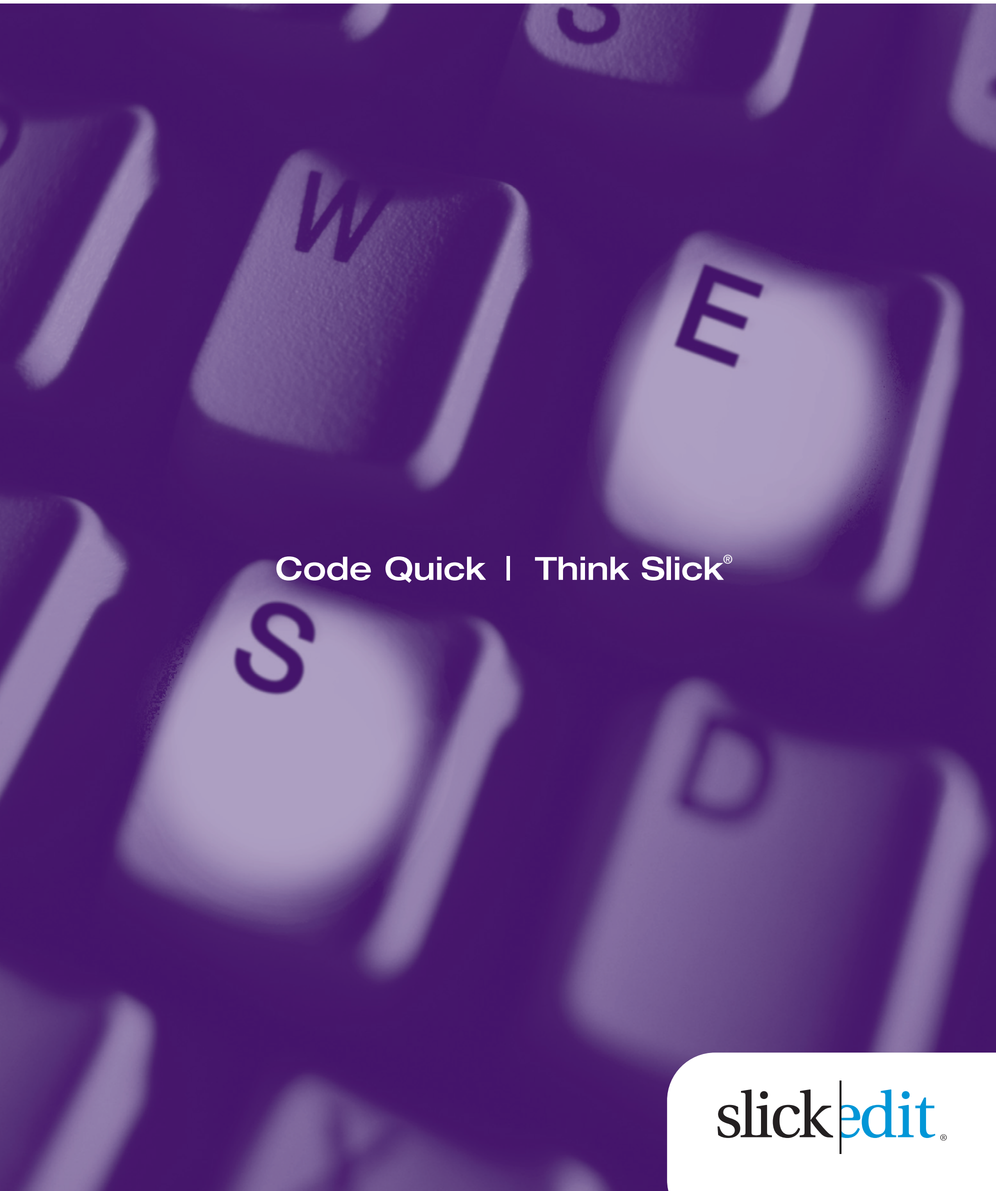
SlickEdit® Core v3.3 for Eclipse™



slickedit®

SlickEdit® Core v3.3 for Eclipse™

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Chapter 1. Introduction

Getting the Most Out of SlickEdit® Core

At SlickEdit, we take great pride in delivering unparalleled power, speed, and flexibility to our customers. Our goal is to remove the tedious tasks involved with programming, allowing you to focus on the reason you first got into programming: the thrill of writing great code.

SlickEdit Core brings the rich history of excellence of SlickEdit to the Eclipse framework. It delivers the power programming capabilities needed to write more code faster and more accurately, making it an indispensable plug-in for developers.

Cool Features

SlickEdit® Core contains powerful editing features and capabilities. Some of our coolest features are listed in the Cool Features dialog. Using this dialog, you can read a description of each feature and watch a short demo of the feature in action. By default, the Cool Features dialog appears each time Eclipse is started. It can also be displayed anytime by clicking **Help** → **SlickEdit Cool Features**.

Write More Code, Faster

These keys to programming efficiency will help you write more code, faster than you ever have before:

- **Keep your hands on the keyboard** - Time is wasted each time you reach for the mouse. SlickEdit® Core contains 13 editor emulations with predefined key bindings that are ready for use in performing common tasks. Define your own key bindings or invoke editor operations from the SlickEdit Core command line. For more information, see Using the Mouse and Keyboard.
- **Type as little as possible** - SlickEdit Core contains many features that reduce the number of keystrokes you type, including automatic completions, syntax expansion, aliases, macros, code templates, and code generators. For information about these features, see the topics in Chapter 6, *Editing Features*.
- **Rapidly navigate code** - Instantly jump from a symbol to its definition or view a list of references. Preview definitions for the current symbol without having to open the file. Use bookmarks to mark important locations in the code. SlickEdit Core includes powerful browse and search capabilities, allowing you to quickly find the code you want. See Navigation for more information.
- **Access information quickly** - SlickEdit Core uses visual indicators to provide you with information about your code, including syntax highlighting and color coding. Special views are also available for looking up information about files, classes, symbols, definitions, and more. To learn more, see SlickEdit Views, Symbol Browsing, and other topics in Chapter 6, *Editing Features*.
- **Let SlickEdit Core do the formatting** - Syntax indenting, SmartPaste®, and code beautifiers are just a few of the automatic formatting features in SlickEdit Core. For more information, see the topics in Chapter 6, *Editing Features*.
- **Utilize utilities** - SlickEdit Core provides many utilities for working with your code, such as DIFFzilla®, 3-Way Merge, a RegEx Evaluator, math commands, and even a calculator. See the topics in Chapter 8,

Tools and Utilities for more information.

Get Started

To get started, check out Chapter 2, *Quick Start*. This will guide you through configuration of some of the most common user preference settings, so you can get more work done in less time, *your* way.

Documentation and Conventions

Accessing Documentation

Documentation is located in the SlickEdit® Core installation directory at `<PathToSlickEditCore>/eclipse/plugins/com.slickedit.core_VERSION/docs`. The `docs` directory contains PDFs of the following items:

- The *User Guide* - This guide provides comprehensive information about using SlickEdit Core.
- The *Slick-C® Macro Programming Guide* - This guide contains details about how to write macros using the Slick-C macro programming language.
- Emulation charts for the following editors: BBEdit, Brief, CodeWarrior™, CodeWright®, CUA (default), Epsilon, GNU Emacs, ISPF, SlickEdit (Text Mode edition), Vim, Visual C++ ® 6, Visual Studio®, and Xcode®.

In addition to the documentation, SlickEdit Core provides a built-in Help system. The contents of the Help system is the same as the contents of the *User Guide*.

Documentation Feedback

We welcome your comments and suggestions regarding our documentation. Please send feedback to `<docs@slickedit.com>`.

Documentation Conventions

The subsequent topics describe conventions that are used in the SlickEdit® Core documentation.

Default Emulation/Key Binding Mode

CUA is the default editor emulation mode. Therefore, key bindings and shortcuts listed in the documentation follow the CUA emulation.

Platform-Specific Notes

Platform-specific notes for for Microsoft Windows and Linux® are listed throughout the documentation where applicable.

Menus and Dialogs

Instructions for navigating to items accessed from the main menu are written in the form:

`MainMenuItem`* > *`SubMenuItem`

For example, the text "click **Window** → **Preferences**" indicates that you should first select **Window** from the main menu, then select **Preferences** from the Window submenu.

Our documentation structure is set up so that instructions for using the product make up the bulk of the content, while listings of dialog boxes and options can be found in Chapter 10, *SlickEdit Core Dialogs*. Buttons on dialogs, such as **OK** and **Close**, are not usually documented since the meaning is obvious.

Code Syntax Conventions

- Commands, switches, keywords, properties, operators, options, variables, and text to be typed by the user are shown in **bold** type.
- User-input variables and placeholders are shown in **bold** *italic* type.
- Code samples and file names are displayed in a `monospaced` font.
- File extensions and environment variables are written with an UPPERCASE font.
- SlickEdit® Core commands that contain two or more words are written with underscore separators: for example, **cursor_down**. Note that in the user interface, however, these commands are displayed with hyphen separators: for example, **cursor-down**. Both of these forms work, so you can use whichever style you prefer.

Supported Languages and Environments

This section lists the languages and file types supported by each SlickEdit® Core feature as well as the supported emulations.

Supported Languages and File Types

The table below indicates the languages and file types that support key SlickEdit® Core features. Features that are not language-specific, such as DIFFzilla®, are not listed here.

Table 1.1. Supported Languages and File Types

Feature	Languages
Automatic Syntax Expansion	ActionScript, Ada, AWK, C, C#, C++, CFML, CFScript, Ch, COBOL, DTD, Fortran, HTML, IDL, InstallScript, J#, Java, JavaScript™, JSP™, Objective-C, Pascal, Perl, PHP, PL/SQL, PV-WAVE ®, Python™, REXX, Ruby, SAS®, Slick-C®, Tcl, Transact-SQL®, VBScript, Verilog®, VHDL, Visual Basic®, Visual Basic .NET™, XML, XSD
Code Beautifier	ActionScript, Ada, C, C#, C++, CFML, HTML, Java, JavaScript, JSP, Slick-C, XML, XSD
Color Coding	ActionScript, Ada, ANTLR, AppleScript®, Assembly Language, AWK, Bourne shell scripts, C, C Shell, C#, C++, CFML, CFScript, Ch, CICS®, COBOL, DB2®, DTD, Fortran, High Level Assembler, HTML, IDL, InstallScript, J#, Java, JavaScript, JCL, JSP, Lex, Modula-2, Objective-C, Pascal, Perl, PHP, PL/I, PL/SQL, PowerNP™ Assembler, Progress® 4GL, PV-WAVE, Python, REXX, Ruby, SAS, Slick-C, Tcl, Transact-SQL, VBScript, Verilog, VHDL, Visual Basic, Visual Basic .NET, Windows batch files, x86 Assembly, XML, XSD, Yacc
Context Tagging®: Auto List Members, Auto Parameter Info	ActionScript, Ada, C, C#, C++, CFML, CFScript, Ch, CICS, COBOL, DTD, High Level Assembler, HTML, IDL, InstallScript, J#, Java, JavaScript, JSP, Objective-C, Pascal, Perl, PHP, PL/I, PV-WAVE, Python, Ruby, Slick-C, VBScript, Verilog, VHDL, Visual Basic .NET, XML, XSD
Context Tagging: Auto List Parameters	ActionScript, C, C++, Ch, J#, Java, Slick-C

Feature	Languages
Javadoc™ Editor	ActionScript, C, C#, C++, J#, Java, JavaScript, Slick-C
Select/Hide Code Block	ActionScript, Ada, C, C#, C++, CFML, Ch, COBOL, DB2, Fortran, High Level Assembler, HTML, IDL, InstallScript, J#, Java, JavaScript, Modula-2, Objective-C, Pascal, Perl, PHP, PL/SQL, Slick-C, Tcl, Visual Basic, Visual Basic .NET, XML, XSD
Selective Display Collapsible code block and function bodies.	ActionScript, Ada, ANTLR, C, C#, C++, CFML, CFScript, Ch, CICS, COBOL, DB2, DTD, Fortran, High Level Assembler, HTML, IDL, InstallScript, J#, Java, JavaScript, JCL, JSP, Lex, Modula-2, Objective-C, Pascal, Perl, PHP, PL/I, PL/SQL, PowerNP Assembler, PV-WAVE, Python, REXX, Ruby, SAS, Slick-C, Tcl, Transact-SQL, VBScript, Verilog, VHDL, Visual Basic, Visual Basic .NET, x86 Assembly, XML, XSD, Yacc
SmartPaste® Pasted code re-indents to correct level.	ActionScript, AWK, C, C#, C++, IDL, InstallScript, J#, Java, JavaScript, JSP, Objective-C, Pascal, Perl, PHP, PL/I, PV-WAVE, Python, Ruby, Slick-C, Tcl
Source Code Navigation and Lookup Includes Class, Outline, Preview, References, and Symbols views, as well as symbol navigation.	ActionScript, Ada, ANTLR, Assembly Language, AWK, Bourne shell scripts, C, C Shell, C#, C++, CFML, CFScript, Ch, CICS, COBOL, DB2, DTD, Fortran, High Level Assembler, HTML, IDL, InstallScript, J#, Java, JavaScript, JCL, JSP, Lex, Makefile, Modula-2, Objective-C, Pascal, Perl, PHP, PL/I, PL/SQL, PowerNP Assembler, Progress 4GL, PV-WAVE, Python, REXX, Ruby, SAS, Slick-C, Tcl, Transact-SQL, VBScript, Verilog, VHDL, Visual Basic, Visual Basic .NET, Windows batch files, x86 Assembly, XML, XSD, Yacc
Syntax Indenting Cursor is placed at correct indent level.	ActionScript, Ada, AWK, C, C#, C++, CFML, CFScript, Ch, COBOL, Fortran, HTML, IDL, InstallScript, J#, Java, JavaScript, JSP, Objective-C, Pascal, Perl, PHP, PL/SQL, PV-WAVE, Python, REXX, Ruby, SAS, Slick-C, Tcl, Transact-SQL, VBScript, Verilog, VHDL, Visual Basic, Visual Basic .NET, XML, XSD

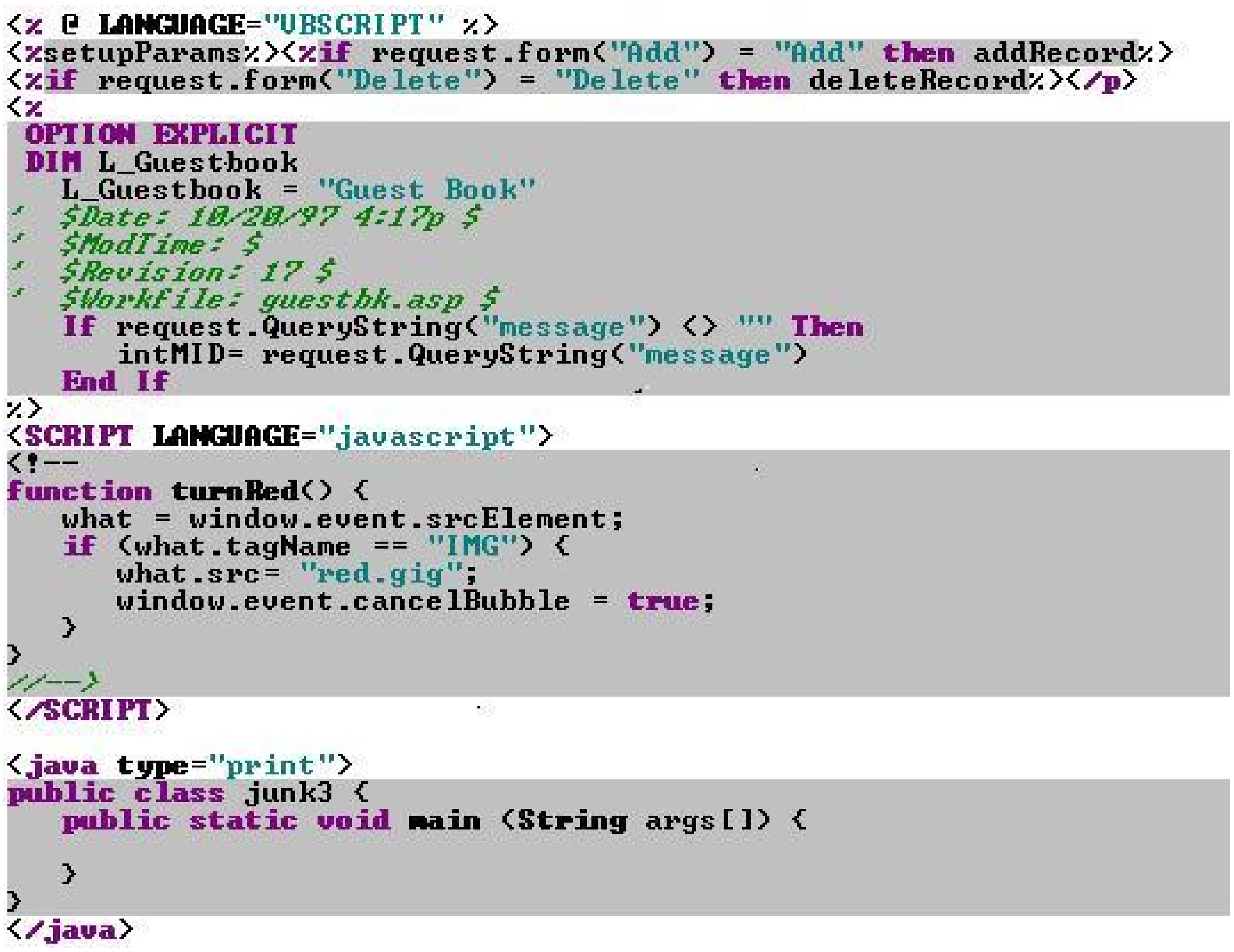
Embedded Languages

SlickEdit® Core recognizes languages embedded in HTML, COBOL, Perl scripts, and UNIX shell scripts. When editing embedded languages, all language-sensitive features are supported, including Context Tagging®, SmartPaste®, Syntax Expansion, Syntax Indenting, and Color Coding. In fact, Context Tagging picks up embedded tags. For example, the Outline view displays function names if any exist. Embedded language colors are user-defined.

Embedded Languages in HTML

SlickEdit® Core supports any embedded language in HTML. However, Web browsers usually only support VBScript, JavaScript, and/or Java, while Web servers typically support VBScript, Java, or PHP. The following screen is an example of VBScript, JavaScript, and Java embedded in HTML:

Figure 1.1. Embedded Languages in HTML

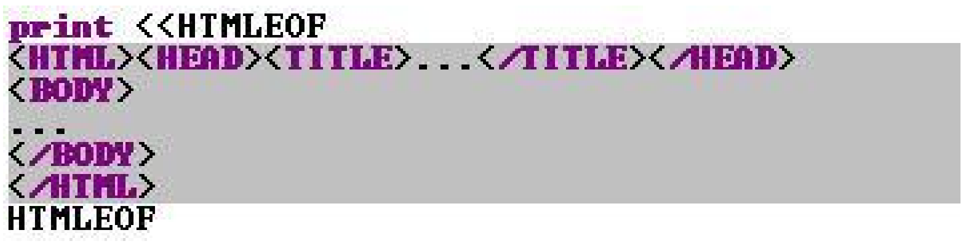


```
<% @ LANGUAGE="VBSCRIPT" %>
<%setupParams%><%if request.form("Add") = "Add" then addRecord%>
<%if request.form("Delete") = "Delete" then deleteRecord%></p>
<%
 OPTION EXPLICIT
 DIM L_Guestbook
   L_Guestbook = "Guest Book"
'  $Date: 10/20/97 4:17p $
'  $ModTime: $
'  $Revision: 17 $
'  $Workfile: guestbk.asp $
   If request.QueryString("message") <> "" Then
      intMID= request.QueryString("message")
   End If
%>
<SCRIPT LANGUAGE="javascript">
<!--
function turnRed() {
   what = window.event.srcElement;
   if (what.tagName == "IMG") {
      what.src= "red.gig";
      window.event.cancelBubble = true;
   }
}
//-->
</SCRIPT>

<java type="print">
public class junk3 {
   public static void main (String args[]) {

   }
}
</java>
```

Embedded Languages in Perl and Other Scripting Languages

To allow SlickEdit® Core to recognize embedded source in a Perl script or UNIX shell, prefix the **HERE** document terminator with the color coding lexer name. The following Perl example shows HTML embedded in a Perl script. Unknown languages are color-coded in string color.

Figure 1.2. HTML Embedded in Perl



```
print <<HTMLEOF
<HTML><HEAD><TITLE>...</TITLE></HEAD>
<BODY>
...
</BODY>
</HTML>
HTMLEOF
```

Supported Editor Emulations

SlickEdit® Core provides keyboard emulations for the following editors:

- BBEdit
- Brief
- CodeWarrior
- CodeWright
- CUA (the SlickEdit Core default)
- Epsilon
- GNU Emacs
- ISPF
- SlickEdit® (text mode edition)
- Vim
- Visual C++ 6
- Visual Studio default
- Xcode

See Emulations for more information.

Install/Uninstall

System Requirements

SlickEdit® Core runs on Microsoft® Vista™, Windows® XP, or Windows 2000 as well as Linux® x86/GTK 2 (kernel 2.4 or later), with the following requirements:

- 256 MB minimum recommended memory
- 150 MB available hard disk space on Windows, 200 MB on Linux
- Eclipse 3.3, including JDT
- Java 5 or later (Linux only)
- Internet connection required to activate license

Optionally, CDT 3.1 is needed to run, compile, and debug C and C++ programs.

Installing SlickEdit® Core

SlickEdit Core is provided as an annual subscription that includes support. Installation can be performed by using the Eclipse Update Manager, or you can download ZIP files.

Installing with the Update Manager

To install the SlickEdit® Core with the Eclipse Update Manager:

1. In Eclipse, select **Help** → **Software Updates** → **Find and Install**.
2. Select **Search for new features to install**.
3. Click the **New Remote Site** button on the **Update sites to visit** screen.
4. Enter a name for the plug-in, like "SlickEdit Core", and enter the following for the URL:

   http://www.slickedit.com/updates/secore
5. Select **SlickEdit Core** in the list of features to install, and click **Next**.
6. Accept the license agreement to continue.
7. Click **Finish**.

Installing with ZIP Files

SlickEdit also provides ZIP files for installing SlickEdit® Core. Unzip the files to your Eclipse installation directory, then follow the instructions below to complete setup.

Setup on Windows

1. Open a command line utility and change to the `SlickEditCoreSetup` subdirectory of your Eclipse installation.

2. Run the following command as a user with administrator privileges:

   .\ias add SlickEditCore3.3.0

Setup on Linux

1. Open a command line utility and change to the `SlickEditCoreSetup` subdirectory of your Eclipse installation.

2. Change to the root directory of your Eclipse installation, and run the following command:

   chmod -R +x plugins/com.slickedit.linux.libs_3.3.0/slickedit

3. Run the following command as a user with root access:

   sh install_fnp.sh FNPLicensingService

Finding Updates

To find updates for SlickEdit® Core:

1. In Eclipse, select **Help** → **Software Updates** → **Find and Install**.

2. Select **Search for updates of the currently installed features**.

3. Select the SlickEdit update site from the list of sites, and click **Next**.

4. Accept the license agreement to continue.

5. Click **Finish**.

Licensing

SlickEdit® Core v3.3 uses FLEXnet™ Publisher from Macrovision to manage licenses.

When Eclipse with SlickEdit® Core is run, it checks for an activated license. If one can't be found, the SlickEdit License Manager wizard is run. This gives you the option to get a trial license, buy a license, or enter a license key. You can also manually run the SlickEdit License Manager by selecting **Help** → **SlickEdit License Manager**.

- To try out SlickEdit Core, click the option to obtain a trial license. This will take you to a Web page where you can register for a trial. A license key will be e-mailed to you to activate the product. A trial can be converted to full license by entering a full license key at any time in the SlickEdit License Manager.

- To buy a full license, visit the SlickEdit Web site at *http://www.slickedit.com* or select the **Purchase a License** option. That will take you directly to the product page for SlickEdit Core.
- To enter a license key for an existing license, select **Enter a license key**.

Activation

After you enter a license key to activate the product, SlickEdit® Core contacts the license server over the Internet.

You are permitted up to five concurrent activations of SlickEdit Core, initially. You can contact SlickEdit Sales to get additional activations at no additional cost if you need more. Activating SlickEdit Core enables your subscription to run on a particular machine. You can deactivate a license if you want to use it on a different machine. Uninstalling SlickEdit Core does not automatically deactivate the license.

Your license key is good for one year. Any new versions of SlickEdit Core that are released will work with the existing key. You will not need to reactivate a machine when installing a new version of SlickEdit Core. When your subscription expires, you will need a new license key. Each machine will need to be reactivated using that key.

Deactivation

Once you have activated SlickEdit® Core on five machines, you will not be able to activate it on another machine until you have deactivated one of the other five. If you need more than five machines activated at one time, you can contact SlickEdit Sales to request additional activations at no cost. You can deactivate a license using the SlickEdit License Manager. Select **Help** → **SlickEdit License Manager** and then select the **Deactivate a license** option.

You can also deactivate a license using a stand-alone utility shipped with SlickEdit Core: `vsact.exe` in the `flex` subdirectory of your SlickEdit Core installation directory. You can copy the `flex` directory from one machine to another and run `vsact.exe`. You can also download these utilities from the SlickEdit Web site.

To deactivate a license with `vsact.exe`, type:

vsact deactivate

If you have more than one license active on this machine, perhaps for other SlickEdit products, you will need to specify an ID for the license to deactivate. Run **vsact list** to display a list of the licenses and their IDs.

Note

Uninstalling SlickEdit Core does not deactivate the license. If you have uninstalled SlickEdit Core, you can copy the utilities in the `flex` subdirectory of another installation and run **vsact** to deactivate this license.

Repairing a License

FLEXnet Publisher identifies your machine using a combination of information about the hardware on this machine. No personal data is used in creating this ID. Small changes to your machine, like switching display cards, upgrading memory, or changing hard drives can cause the license to become "damaged". A license can also be damaged by changing the system date by more than one day. When this happens you will need to repair the license.

SlickEdit® Core automatically detects damaged licenses and launches the SlickEdit License Manager. You will be prompted to enter your license key. The number of repairs is limited, but enough are available to handle any reasonable hardware changes. If you run out of repairs, please contact Product Support.

If enough hardware is changed, then this will appear to be a different machine and you will have to activate the license as though this was the first time Eclipse with SlickEdit Core was run. In that case, you will lose the activation you had previously. Therefore, we strongly recommend that you deactivate your license prior to making substantial changes to your computer's hardware.

Adjusting the System Date

Changing the system date on your computer could damage your license. The SlickEdit® License Manager records the date each time the product is run. If you run Eclipse with SlickEdit Core with a system date that is more than one day earlier than a previous run then your license will be damaged. This is part of the tamper protection on time-limited licenses, like a trial license or the SlickEdit Core subscription.

Changing your system date is a normal part of testing time-based behavior in the software you are developing. For example, you may need to set your clock ahead to test alerts on a task management program. As long as you don't run Eclipse with SlickEdit Core (or another FLEXnet Publisher licensed product) while your clock is set ahead, you will not have any repair issues. If you do need to run SlickEdit Core, your license will be damaged when you run again at the current date. When this occurs, you can repair the license as described in Repairing a License. The number of repairs is limited, so you should be cautious about running SlickEdit Core when your clock is set ahead. If you run out of repairs, please contact Product Support.

Daylight savings time will not cause this to occur since it is only adjusting the date by one day. Only changes larger than one day will trigger this.

Uninstalling SlickEdit® Core

To uninstall SlickEdit® Core:

1. In Eclipse, select **Help** → **Software Updates** → **Manage Configuration**.
2. Select **SlickEdit Core** from the list.
3. Right-click and select **Uninstall**.

Help and Product Support

There are several ways to get help about SlickEdit® Core:

- **Use the Help system** - See Using the Help System below.
- **Search the FAQ** - A list of frequently asked questions and answers is available from the Product Support section of our Web site at *http://www.slickedit.com*.
- **Use the Community Forums** - Search for or post your question on the SlickEdit Community Forums to seek help from other SlickEdit Core users. The forums are located at *http://community.slickedit.com*.
- **Contact Product Support** - See Contacting Product Support below.

Using the Help System

When SlickEdit® Core is installed, the searchable Help system is installed with the product. The contents of the Help system are the same as the contents of the *User Guide* located in the `docs` installation subdirectory (see Accessing Documentation).

To access the Help system, from the main menu, click **Help** → **Help Contents**, then expand **SlickEdit Core v3.3 for Eclipse** in the tree.

Note

Context-sensitive Help is currently not available in SlickEdit Core.

Product Support

Patches, macros, FAQs, and more are available on the Product Support section of our Web site at *http://www.slickedit.com*. From within Eclipse, you can click **Help** → **SlickEdit Support Web Site** to launch the site in a browser window.

Contacting Product Support

Use the SlickEdit Community Forums at *http://community.slickedit.com* to report all defects and share any feedback you have on this release. For problem reports, please provide the following information:

- A description of the problem.
- The language you are working in (C/C++, Java, etc.).
- SlickEdit Core program information. Select **Help** → **About SlickEdit Core**, then select the **Program Information** tab, click **Copy To Clipboard** and paste the information in the problem report.
- A code snippet to help us reproduce it (if possible).

Chapter 2. Quick Start

SlickEdit® Core provides numerous configuration options so you can customize your environment according to your working style and preferences. To help get you up and running as quickly as possible, the Quick Start describes commonly used option settings that are found in most programming editors. The options fall into two categories: General Options and Extension-Specific Options.

General Options

General options affect all language extensions. You may want to look through all of the dialogs mentioned to see if there are any other settings you want to make. To see a listing of all of the option dialogs and their descriptions, see the appropriate topics in Chapter 10, *SlickEdit Core Dialogs*.

Use the Preferences dialog to access SlickEdit® Core options described below. To display the Preferences dialog, from the main menu, click **Window** → **Preferences**. In the tree, expand **SlickEdit** and click **General**.

- **Changing the emulation** - During the product installation, you are prompted to choose the editor emulation. The default is CUA. To change the emulation at any time, double-click the **Emulation** setting and specify the desired emulation.
- **Expanding/collapsing with a single click** - Selective Display **Plus** and **Minus** bitmaps can be expanded or collapsed with a single click rather than a double-click. To specify this option, double-click the **General** setting. On the General Options dialog, select the **General** tab, then select the option **Expand/ collapse single click**.
- **Clicking past the end of a line** - To have the ability to place the cursor past the end of a line, double-click the **General** setting. On the General Options dialog, select the **General** tab, then select the option **Click past end of line**.
- **Specifying cursor up/down behavior** - By default, **cursor_up** and **cursor_down** commands go to the same column of the next or previous line, unless that line is shorter than the current column, in which case the cursor is placed at the end of the line. To have the cursor placed in virtual space at the end of the line, double-click the **Redefine Common Keys** setting. Uncheck the option **Up/Down on text**.
- **Changing the line insert style** - In code, a line of text is a meaningful unit of functionality. SlickEdit® Core treats line selections differently than character selections. Line selections are pasted either above or below the current line, saving you from tediously positioning the cursor at the beginning or end of a line prior to pasting. To specify where line selections are pasted, double-click the **General** setting. On the General Options dialog, select the **More** tab, then set the **Line insert style** option to **Before** or **After**. The default is **After**.
- **Setting color schemes and fonts** - Predefined color schemes, as well as individual settings, are available for changing the colors of screen elements. To use a different color scheme, double-click the **Color** setting. Click the **Schemes** button, and select a scheme that you like from the **Color scheme** drop-down list. To change the fonts used for screen elements, go back to the Preferences dialog and double-click the **Font** setting.

Extension-Specific Options

These options are specific to file extensions, and are available on the Extension Options dialog (open the Preferences dialog, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). When the Extension Options dialog is displayed, before setting the options, select the extension you wish to affect from the **Extension** drop-down list.

In addition to the options described below, more settings for the selected language extension are available by pressing the **Options** button on the Extension Options dialog. Because each of these dialogs is different based on the selected extension, we recommend that you look through these dialogs for any settings that you may want to make.

To see a listing of all of the option dialogs and their descriptions, see topics in Chapter 10, *SlickEdit Core Dialogs*.

- **Changing the brace style** - To change the brace style used for C, C++, C#, Java, and other languages that use braces, click the **Options** button on the Extension Options dialog, then specify the **Begin-End Style** that you want to use.
- **Changing the tab and indent styles**:
  - **Indenting with spaces** - By default, when you press the **Tab** key to indent, literal spaces are inserted. This is a feature called Syntax Indent. To change the amount of spaces, select the **Indent** tab, make sure the **Indent style** is set to **Auto**, then specify the amount of spaces in the **Syntax indent** text box.
  - **Indenting with tabs** - If you plan to indent your code using tabs, or if you will be editing files that already contain tabs, specify your tab preferences on the **Indent** tab. Select the option **Indent with tabs**, then specify the amount of spaces tab characters should have in the **Tabs** text box.

Note

For C, C++, Java, and similar languages, you can find more indenting options by clicking the **Options** button on the Extension Options dialog.

- **Enabling/disabling Syntax Expansion** - When you type a keyword, such as **if** or **for**, press the spacebar to expand that syntax element, inserting the rest of the **if** or **for** statement. This feature is called Syntax Expansion. To turn it off, select the **Indent** tab, then deselect the option **Syntax expansion**.
- **Setting symbol navigation** - For C and C++, by default, with each attempt to navigate to a definition (**Ctrl**+**Dot** or **Search** → **Go to Definition**), you will be prompted for whether you wish to navigate to the definition (proc) or the declaration (proto). To specify that Go to Definition always navigates to one or the other, select the **Context Tagging**® tab, then select one of the **Go to Definition** options.
- **Showing the info for a symbol under the mouse** - By default, as the mouse cursor floats over a symbol, the information and comments for that symbol are displayed. To turn this behavior off, select the **Context Tagging**® tab, then deselect the option **Show info for symbol under mouse**.
- **Configuring C/C++ preprocessing** - For C and C++, your source code base will typically include pre-

processor macros that you use in your code for portability or convenience. For performance considerations, Context Tagging does not do full preprocessing, so preprocessing that interferes with normal C++ syntax can cause the parser to miss certain symbols. To configure your preprocessing to avoid these omissions, see C/C++ Preprocessing.

Chapter 3. User Interface

Screen Layout

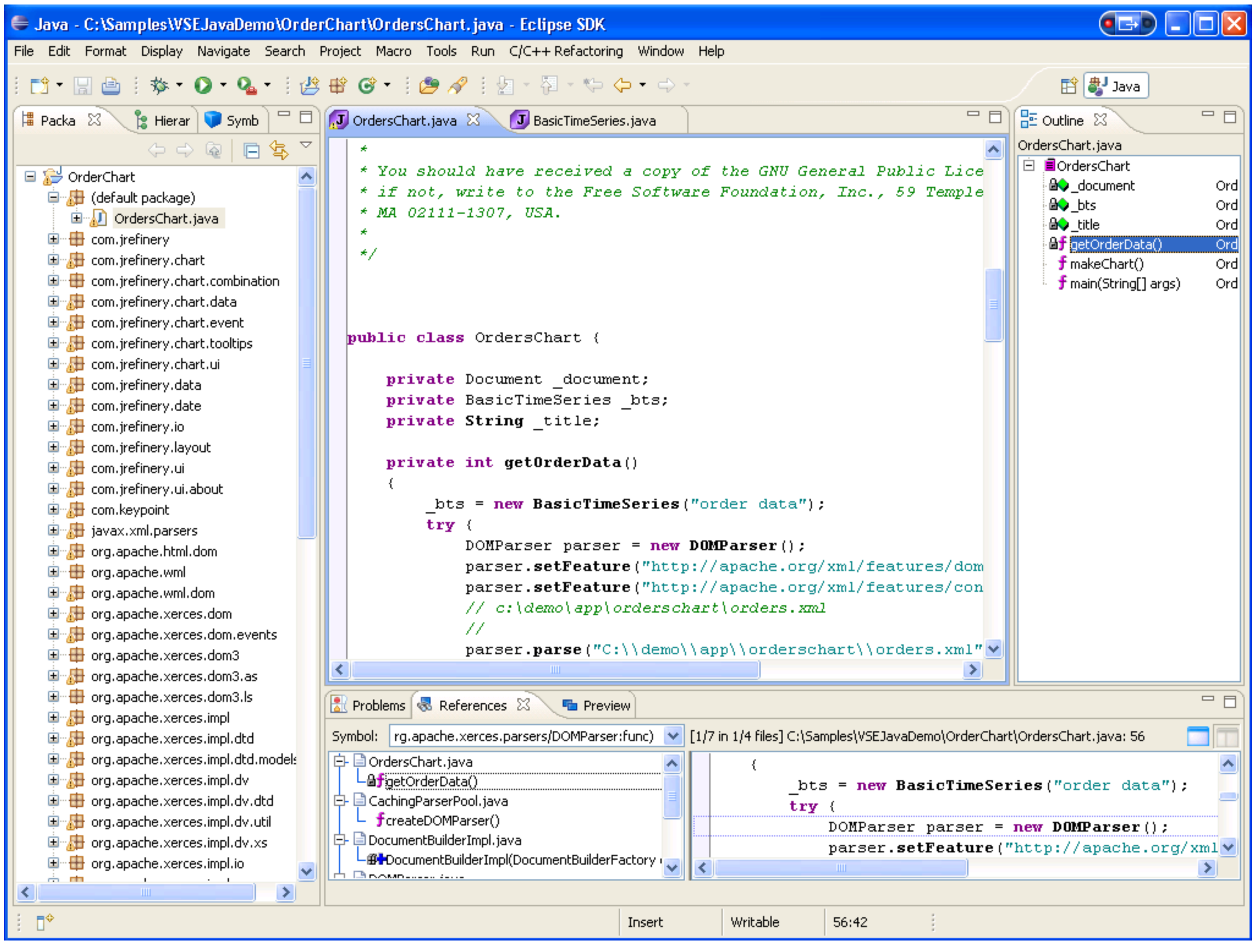
Note

SlickEdit® Core does not modify the Eclipse screen layout, so this information is intended only as a brief overview. See "Workbench User Guide" in the Eclipse Help for more details about the Eclipse layout.

The Workbench

The workbench is the area where the workspace, projects, and programs are contained. Use the workbench to manage and edit all projects in various perspectives, views, or editors. Work may only occur in one workbench at a time.

Figure 3.1. The Workbench


Java - C:\Samples\VSEJavaDemo\OrderChart\OrdersChart.java - Eclipse SDK
File Edit Format Display Navigate Search Project Macro Tools Run C/C++ Refactoring Window Help
Java
Packa
Hierar
Symb
OrdersChart.java
BasicTimeSeries.java
Outline
Problems
References
Preview
Symbol:
Insert
Writable
56:42

```
OrderChart
  (default package)
    OrdersChart.java
  com.jrefinery
  com.jrefinery.chart
  com.jrefinery.chart.combination
  com.jrefinery.chart.data
  com.jrefinery.chart.event
  com.jrefinery.chart.tooltips
  com.jrefinery.chart.ui
  com.jrefinery.data
  com.jrefinery.date
  com.jrefinery.io
  com.jrefinery.layout
  com.jrefinery.ui
  com.jrefinery.ui.about
  com.keypoint
  javax.xml.parsers
  org.apache.html.dom
  org.apache.wml
  org.apache.wml.dom
  org.apache.xerces.dom
  org.apache.xerces.dom.events
  org.apache.xerces.dom3
  org.apache.xerces.dom3.as
  org.apache.xerces.dom3.ls
  org.apache.xerces.impl
  org.apache.xerces.impl.dtd
  org.apache.xerces.impl.dtd.models
  org.apache.xerces.impl.dv
  org.apache.xerces.impl.dv.dtd
  org.apache.xerces.impl.dv.util
  org.apache.xerces.impl.dv.xs
  org.apache.xerces.impl.io
```

```
 *
 * You should have received a copy of the GNU General Public Lice
 * if not, write to the Free Software Foundation, Inc., 59 Temple
 * MA 02111-1307, USA.
 *
 */



public class OrdersChart {

    private Document _document;
    private BasicTimeSeries _bts;
    private String _title;

    private int getOrderData()
    {
        _bts = new BasicTimeSeries("order data");
        try {
            DOMParser parser = new DOMParser();
            parser.setFeature("http://apache.org/xml/features/dom
            parser.setFeature("http://apache.org/xml/features/con
            // c:\demo\app\orderschart\orders.xml
            //
            parser.parse("C:\\demo\\app\\orderschart\\orders.xml"
```

```
OrdersChart.java
  OrdersChart
    _document        Ord
    _bts             Ord
    _title           Ord
    getOrderData()   Ord
    makeChart()      Ord
    main(String[] args)  Ord
```

Symbol: rg.apache.xerces.parsers/DOMParser:func) [1/7 in 1/4 files] C:\Samples\VSEJavaDemo\OrderChart\OrdersChart.java: 56

```
OrdersChart.java
  getOrderData()
CachingParserPool.java
  createDOMParser()
DocumentBuilderImpl.java
  DocumentBuilderImpl(DocumentBuilderFactory
```

```
    {
        _bts = new BasicTimeSeries("order data");
        try {
            DOMParser parser = new DOMParser();
            parser.setFeature("http://apache.org/xml
```

The Workspace

The workspace is a collection of projects. A project contains all resources such as source files, sub-folders, icons, and generated code.

By default, the workspace files are placed in a workspace subdirectory under the install directory.

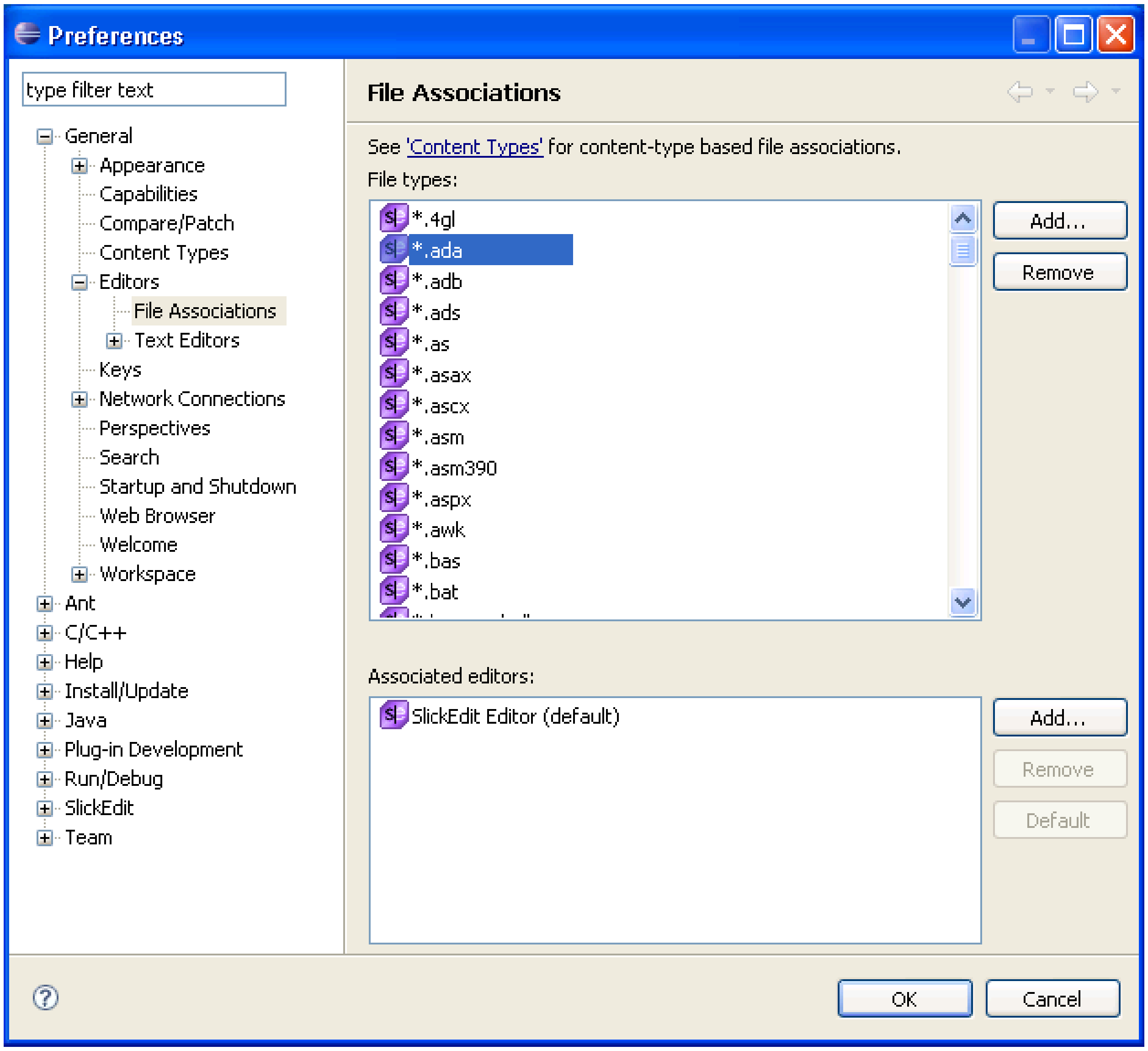
Perspectives

A perspective in Eclipse is a set of views and editors. For example, the Java perspective has a much different set of views than the Debug perspective. You can customize each perspective's layout by dragging and dropping.

The SlickEdit® Core Editor

Use the SlickEdit Core editor to create and change projects, folders, files, and classes. To edit files and classes in SlickEdit Core, first associate those files or classes with the editor or open the source file using the editor.

Figure 3.2. Managing File Associations



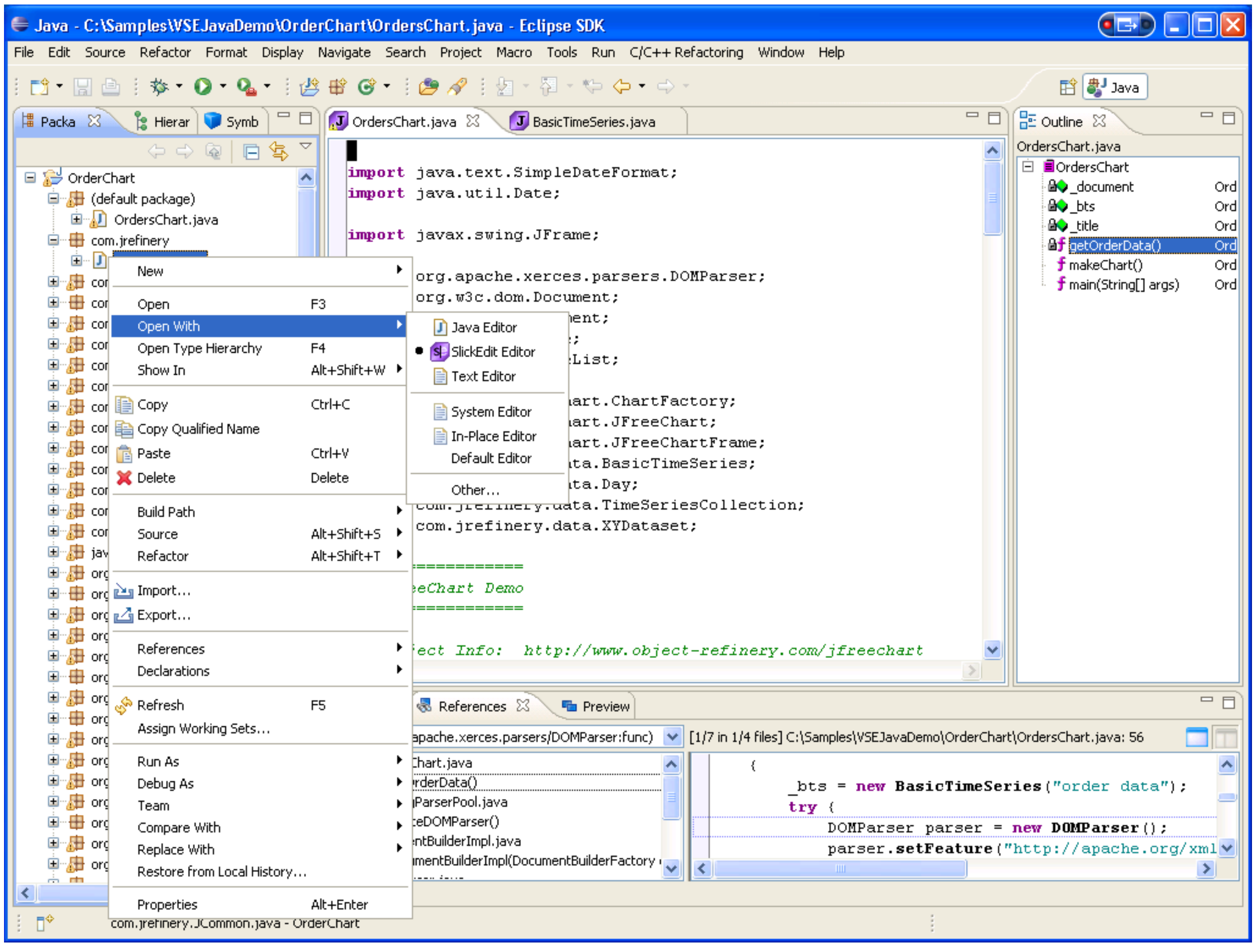
To associate files to edit, complete the following steps:

1. From the main menu, click **Window** → **Preferences**.
2. Expand **General**, then expand **Editors** and select **File Associations**.
3. From the **File Types** list, select the desired file type. Or, to add an extension, click **Add**.
4. From the **Associated Editors** list, select the desired editor.
5. To make this the default editor for this file type, click the **Default** button.
6. Click **OK**.

Source files can be opened with the SlickEdit Core editor in the following ways:

- To open a source file in the workspace, from the Navigator view, select the desired file. Right-click the file, then select **Open**.
- To open a file using a specific editor, from the Navigator view, select the desired file. Right-click the file, then select **Open With**.
- To open a file that is outside of the workspace, from the main menu, click **File** → **Open**.

Figure 3.3. Opening Source Files with SlickEdit Core



```
import java.text.SimpleDateFormat;
import java.util.Date;

import javax.swing.JFrame;

org.apache.xerces.parsers.DOMParser;
org.w3c.dom.Document;
ent;
;
List;

art.ChartFactory;
art.JFreeChart;
art.JFreeChartFrame;
ta.BasicTimeSeries;
ta.Day;
com.jrefinery.data.TimeSeriesCollection;
com.jrefinery.data.XYDataset;

============
eChart Demo
============

ect Info:  http://www.object-refinery.com/jfreechart
```

```
apache.xerces.parsers/DOMParser:func)    [1/7 in 1/4 files] C:\Samples\VSEJavaDemo\OrderChart\OrdersChart.java: 56
Chart.java
rderData()
ParserPool.java
eDOMParser()
ntBuilderImpl.java
mentBuilderImpl(DocumentBuilderFactory
```

```
    {
        _bts = new BasicTimeSeries("order data");
        try {
            DOMParser parser = new DOMParser();
            parser.setFeature("http://apache.org/xml
```

Switching Between the SlickEdit® Core Editor and Eclipse Editors

SlickEdit Core provides the ability to switch from the SlickEdit Core editor to several other Eclipse editors, for the current buffer. These commands are provided in the right-click context menu of the editor:

- **Switch to Java Editor** – Changes to the JDT editor. Visible only for Java files.

- **Switch to C/C++ Editor** – Changes to the CDT editor. Visible only for C/C++ files.
- **Switch to Ant Editor** – Changes to the Eclipse Ant `build.xml` editor. Visible only for `build.xml` files.
- **Switch to Plug-in Manifest Editor** – Changes to the Eclipse `plugin.xml` editor. Visible only for `plugin.xml` files.

Similarly, you can also switch from any Eclipse editor to the SlickEdit Core editor for the current buffer. To do this, use the **Switch To SlickEdit**, accessible from the right-click context menu in the Eclipse editor.

Menus

If a menu specific to SlickEdit Core is not visible, such as the Format menu, then close the open files or classes and re-open with the SlickEdit Core editor.

To open with the SlickEdit Core editor, complete the following steps:

1. Right-click on the desired file or class and select **Open With**.
2. Select the SlickEdit Core editor, even if it appears to have already been chosen.
3. If this is the first time opening the editor, prompts appear to tag the run-time libraries.
4. Follow the remaining prompts.

The following menus are specific to or affected by SlickEdit Core:

- File
- Edit
- Format
- Display
- Navigate
- Search
- Macro
- Tools
- C/C++ Refactoring
- Window
- Help

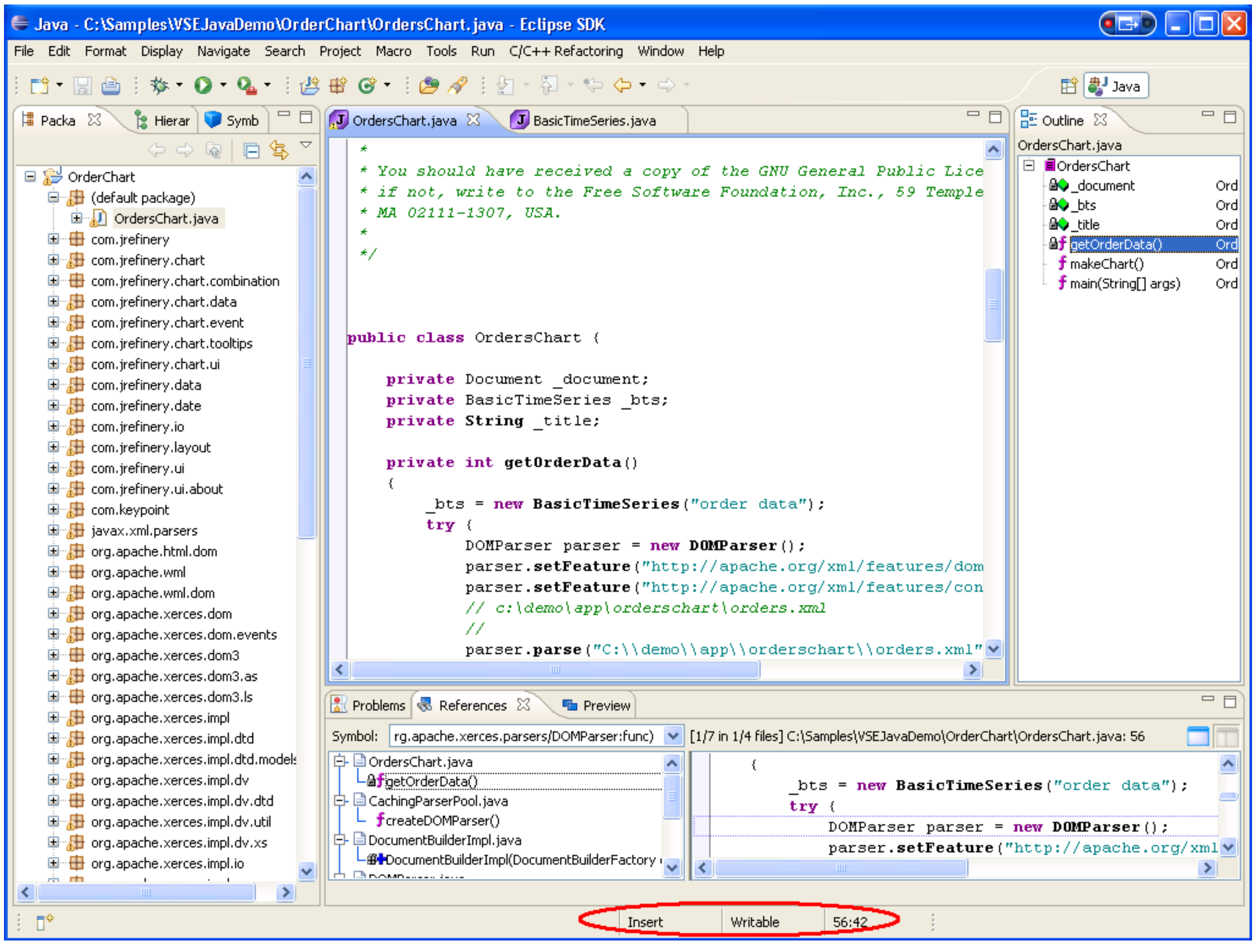
Views

Views are windows that show various types of information that you can move around and dock within Eclipse. See SlickEdit Views for information.

Status Area

The status area for a perspective and an editor displays text messages. It indicates if the current mode is insert, overwrite, or replace, and if a file is read-only. The editor status area also displays the line and column number for the cursor location.

Figure 3.4. Status Area


Java - C:\Samples\VSEJavaDemo\OrderChart\OrdersChart.java - Eclipse SDK
File Edit Format Display Navigate Search Project Macro Tools Run C/C++ Refactoring Window Help
Java
Packa
Hierar
Symb
OrdersChart.java
BasicTimeSeries.java
Outline
OrderChart
(default package)
OrdersChart.java
com.jrefinery
com.jrefinery.chart
com.jrefinery.chart.combination
com.jrefinery.chart.data
com.jrefinery.chart.event
com.jrefinery.chart.tooltips
com.jrefinery.chart.ui
com.jrefinery.data
com.jrefinery.date
com.jrefinery.io
com.jrefinery.layout
com.jrefinery.ui
com.jrefinery.ui.about
com.keypoint
javax.xml.parsers
org.apache.html.dom
org.apache.wml
org.apache.wml.dom
org.apache.xerces.dom
org.apache.xerces.dom.events
org.apache.xerces.dom3
org.apache.xerces.dom3.as
org.apache.xerces.dom3.ls
org.apache.xerces.impl
org.apache.xerces.impl.dtd
org.apache.xerces.impl.dtd.models
org.apache.xerces.impl.dv
org.apache.xerces.impl.dv.dtd
org.apache.xerces.impl.dv.util
org.apache.xerces.impl.dv.xs
org.apache.xerces.impl.io
OrdersChart.java
OrdersChart
_document Ord
_bts Ord
_title Ord
getOrderData() Ord
makeChart() Ord
main(String[] args) Ord
Problems
References
Preview
Symbol: rg.apache.xerces.parsers/DOMParser:func)
[1/7 in 1/4 files] C:\Samples\VSEJavaDemo\OrderChart\OrdersChart.java: 56
OrdersChart.java
getOrderData()
CachingParserPool.java
createDOMParser()
DocumentBuilderImpl.java
DocumentBuilderImpl(DocumentBuilderFactory

```
 *
 * You should have received a copy of the GNU General Public Lice
 * if not, write to the Free Software Foundation, Inc., 59 Temple
 * MA 02111-1307, USA.
 *
 */


public class OrdersChart {

    private Document _document;
    private BasicTimeSeries _bts;
    private String _title;

    private int getOrderData()
    {
        _bts = new BasicTimeSeries("order data");
        try {
            DOMParser parser = new DOMParser();
            parser.setFeature("http://apache.org/xml/features/dom
            parser.setFeature("http://apache.org/xml/features/con
            // c:\demo\app\orderschart\orders.xml
            //
            parser.parse("C:\\demo\\app\\orderschart\\orders.xml"
```

```
    {
        _bts = new BasicTimeSeries("order data");
        try {
            DOMParser parser = new DOMParser();
            parser.setFeature("http://apache.org/xml/features/xml
```

```
Insert    Writable    56:42
```

Dialogs

Although SlickEdit® Core shares a heritage with our stand-alone editor, SlickEdit, dialogs within SlickEdit Core may contain options that are not available when the functionality is not applicable to the Eclipse environment. By the same token, some SlickEdit commands may not be available.

See Chapter 10, *SlickEdit Core Dialogs* for descriptions of each dialog specific to SlickEdit Core, broken into the following categories:

- Editing Dialogs
- Search Dialogs
- Editing Dialogs
- Dialogs Related to Viewing and Displaying
- Macro Dialogs
- Tools Dialogs
- Options Dialogs

Command Line

To activate the SlickEdit Core command line, press Esc in CUA emulation, **Ctrl**+**A** in Vim emulation, or **Alt**+**X** in GNU Emacs emulation.

See The SlickEdit Core Command Line for more information.

SlickEdit Views

Views complement the file opened in the editor. You can move, resize, and customize views easily. All the views and perspectives have live connectivity, meaning that if a file name or property in one view is modified, then that change stays true for that item in every area of the workspace.

Views support editors and provide alternative presentations as well as ways to navigate the information in your workbench.

Views also have their own menus. To open the menu for a view, click the icon at the left end of the view's title bar. Some views also have their own toolbars. The actions represented by buttons on view toolbars only affect the items within that view.

A view might appear by itself, or stacked with other views in a tabbed notebook. You can change the layout of a perspective by opening and closing views and by docking them in different positions in the workbench window.

Opening SlickEdit Core Views

Perspectives offer pre-defined combinations of views and editors. To open a view that is not included in the current perspective, from the main menu, click **Window** → **Show View**. To open a SlickEdit Core view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click the view you want to open.

Tip

- You can create *fast views* to provide a shortcut to views that you use often.
- After adding a view to the current perspective, you may want to save your new layout by clicking **Window** → **Save Perspective As**.

For more information on views and the multiple operations they allow, see the Eclipse online Help.

Available SlickEdit® Core Views

The views below are made available by SlickEdit® Core.

Bookmarks

Displays a list of bookmarks that have been set. Note that the bookmark functionality in SlickEdit® Core integrates with the Eclipse Bookmarks view. For more details, see Bookmarks.

Breakpoints

Lists breakpoints (and exception breakpoints for Java) and allows you to modify them. You must use this view to set breakpoint properties. It can be used when you are not in debug mode. Right-click within the view window to display a context menu which allows you to jump to the location of a breakpoint or modify breakpoints. Note that the breakpoints functionality in SlickEdit® Core integrates with the Eclipse Breakpoints view. For more details on this topic, see Setting Breakpoints.

Class

Provides an outline of both the members of the current class as well as any visible inherited members. This view also shows the inheritance hierarchy of the current class, useful for object-oriented programming languages such as Java. See Class View for more information.

Outline

Provides an outline of symbols in the current workspace. See Outline View for more information.

Find and Replace

Used to perform search and replace operations. This view can also be displayed by using the key binding **Ctrl**+**F**. See Find and Replace for more information.

Find Symbol

Used to locate symbols which are declared or defined in your code. It allows you to search for symbols by name using a regular expression, substring, or fast prefix match. See Find Symbol View for more information.

FTP

Used to connect to FTP servers and open files. Right-click on files to display a menu of FTP operations. See FTP for more information.

SlickEdit Output

Displays output from various operations within the editor, such as errors.

Preview

Provides a portal for viewing information in other files without having to open them in the editor. It automatically shows this information when you are working with certain features. See Preview View for more information.

References

Displays the list of symbol references (uses) found the last time that you used the Go to Reference feature (**Ctrl**+**/** or **push_ref** command—see Symbol Navigation for more information). See References View for more information.

Regex Evaluator

Provides the capability to interactively create and test regular expressions. See The Regex Evaluator for more details.

SlickEdit Search

Displays the results of multi-file searches, or when the option **List all occurrences** is selected on the Find and Replace View. See Find and Replace for more information about searching and replacing.

Slick-C® Stack

Displays errors that occur within the editor. If errors occur during normal use, you can send this information to Product Support as a reference (see Contacting Product Support). If an error occurs in one of your macros, you can use this information to help debug it. Double-clicking on a line of code in this window will open the file and go to the line in the file that contains the error.

Symbols

Contains the symbol browser, which lists the symbols from all of the tag files. See Symbols View for more information.

The SlickEdit® Core Command Line

SlickEdit Core provides its own command line as a means to execute most SlickEdit Core operations so you can work without taking your hands off of the keyboard. This is useful for less frequently used operations that may not warrant a key binding, or complex commands that require arguments.

Note

- SlickEdit® Core commands that contain two or more words are written throughout our documentation with underscore separators: for example, **cursor_down**. Note that in the user interface, however, these commands are displayed with hyphen separators: for example, **cursor-down**. Both of these forms work, so you can use whichever style you prefer.
- Although SlickEdit® Core shares a heritage with our stand-alone editor, SlickEdit, some SlickEdit commands may not available when the functionality is not applicable to the Eclipse environment.

Activating the Command Line

To activate or toggle the command line, press the key or key sequence for your emulation:

- BBEdit - **Esc**
- Brief - **Esc**
- CodeWarrior - **Esc**
- CodeWright - **F9**
- Epsilon - **Alt**+**X** or **F2**
- GNU Emacs - **Alt**+**X** or **F2**
- ISPF - **Esc**
- SlickEdit (Text Mode edition) - **Esc**
- Vim - **Ctrl**+**A**
- Visual C++ - **Esc**
- Visual Studio - **Esc**
- Xcode - **Esc**

See Emulations for more information.

Command Line History

The command line maintains a command history, allowing you to quickly reuse previously entered commands. Once the command line is open, use the arrow keys to scroll up and down in the command history.

Command Line Completions

As you type a command, a list of matching completions is displayed, including any command line arguments used in a previous command. Use **Tab** or the **Down** arrow to move to the next command in the list, and **Shift**+**Tab** or the **Up** arrow to move to the previous command. Press the **Enter** key to select the current command.

Some commands, like **set_var**, prompt for arguments. SlickEdit® Core maintains a history of arguments used for each command. Use the same completion and history mechanism as described above for commands to complete arguments. Typically, the most recent argument you typed is automatically displayed.

Tip

Command completions are useful for discovering other useful operations. For instance, to find all operations that begin with "find", type **find** in the command line, and a list of those commands is displayed. Some search commands do not begin with "find", like **gui_find**, so you may not discover all related commands this way. To find all commands containing the word "find," use the Key Bindings dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Key Bindings** setting; alternatively, use the **gui_keybindings** command). See Key and Mouse Bindings for more information.

For information about other items that can be automatically completed, see Completions.

Disabling Command Line Completions

To disable command line completions, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. Uncheck the option **List command line completions**. Note that this option does not apply to the Vim command line.

Using Shortcuts Inside the Command Line

The command line is a text box control just like the text boxes that appear in various dialog boxes. For a list of key shortcuts that can be used inside the command line and other text boxes within SlickEdit® Core, see Key Shortcuts in Text Boxes.

Using the Command Line to View Key Binding Associations

You can use the SlickEdit® Core command line to determine what keys are associated with what commands, and vice-versa.

Tip

Alternatively, you can use the Key Bindings dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Key Bindings** setting, or, use the **gui_keybindings** command) to see a list of command/key binding associations. See Key Bindings Dialog for more information.

Determining the Command of a Key Binding

To determine the function of a key or key binding, use the **what_is** command (**Help** → **What Is Key**). For example:

1. Click **Help** → **What Is Key**, or activate the SlickEdit® Core command line (by pressing **Esc**) and type **what_is** (or type **what** and press the spacebar for auto-completion), then press **Enter**.
2. The message line will prompt with the text `What is key`. Enter the key sequence in question, and the message line will display the information. If the key or key sequence is not bound to a command, no message will appear.

Determining the Key Binding of a Command

To determine the key to which a command is bound, use the **where_is** command (**Help** → **Where Is Command**). For example:

1. Click **Help** → **Where Is Command**, or activate the command line and type **where_is**, then press **Enter**.
2. A dialog will prompt with the text `Where is command`. Enter the command in question. The Eclipse message area will display the key binding or state that the command is not bound to a key.

Starting a Program from the Command Line (Shelling)

You can use the command line to start a program. Press **Esc** to toggle the cursor to the command line. Type the program name and arguments and press **Enter**. When entering a command that the editor does not recognize as an internal command, a path search is performed to find an external program to execute. To use a program whose name contains space characters, enclose the name in double quotes. For example, "this is" will start a program named `this is.exe` if it exists.

To get an operating system prompt, type the command **dos** with no arguments or from the main menu, click **Tools** → **OS Shell**.

Command Line Prompting

Many commands that display dialog boxes have equivalent commands that prompt for arguments on the command line or on the Eclipse message area. For faster prompting than the dialog boxes allow, you can choose to be prompted for arguments on the command line instead. To set this option, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab, then select the option **Command line prompting**. To be more selective than this option permits, change the key bindings. For example, to be prompted only on the command line when opening files, bind the **edit** command to **Ctrl**+**O**, which is bound to the **gui_open** command by default.

The following table contains a partial list of user interface commands and their command line counterparts.

Table 3.1. UI Commands vs. Command Line Counterpart

Graphical Command	Command Line Version
gui_open	**edit**
gui_find	**find**
gui_replace	**replace**
gui_write_selection	**put**
gui_append_selection	**append**
gui_margins	**margins**
gui_tabs	**tabs**
gui_find_proc	**find_proc**

Common SlickEdit® Core Commands

Commands are essentially the names of functions. The following is a list of commands that we use frequently in our own work, which you may also find useful.

Table 3.2. Common SlickEdit Core Commands

Command	Description
e ***file***	Edit a file
number	Go to line number

Command	**Description**
f *symbol*	Find a symbol
/search_string/options	Search for a string
c*/search/replace/options*	Replace a string
sb *name*	Set a bookmark
gb *name*	Jump to a bookmark
man *command*	Show UNIX man page
del *filename*	Delete file
dos *command*	Execute command outside of editor
math *expr*	Evaluate expression

Using the Mouse and Keyboard

SlickEdit® Core provides four ways to launch operations: commands, menu items, key bindings, and buttons. For example, to launch the Open dialog box in order to open a file, you could use any of the following methods:

- Type the **gui_open** command on the SlickEdit command line.
- Click **File** → **Open File**.
- Press the key binding **F7** or **Ctrl**+**O**.

The command forms the basis of each method. As you can see, commands are often bound to more than one key sequence. They can also be bound to mouse events, including the spin wheel. Key bindings are the fastest and most efficient means of executing operations.

See The SlickEdit Core Command Line for more information about commands, and Key and Mouse Bindings for more information about bindings.

Key Shortcuts in Text Boxes

Key shortcuts for text operations (such as Cut, Copy, and Paste) can be used inside of all text boxes within SlickEdit® Core (including the command line).

Tip

The CUA emulation contains the shortcuts **Ctrl**+**X**, **Ctrl**+**C**, and **Ctrl**+**V** for Cut, Copy, and Paste, respectively. If you are not using the CUA emulation, by default, these key bindings still work inside of text boxes. To deactivate this feature, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, then clear the option **CUA Text Box**.

Text Box Editing Keys

The table below contains a list of the key shortcuts (based on the CUA emulation) that can be used inside the command line and other text boxes within SlickEdit Core.

Table 3.3. Text Box Editing Key

Key or Key Sequence	Operation
Insert	Insert mode toggle
Spacebar	Expand partially-typed parameter or insert a space

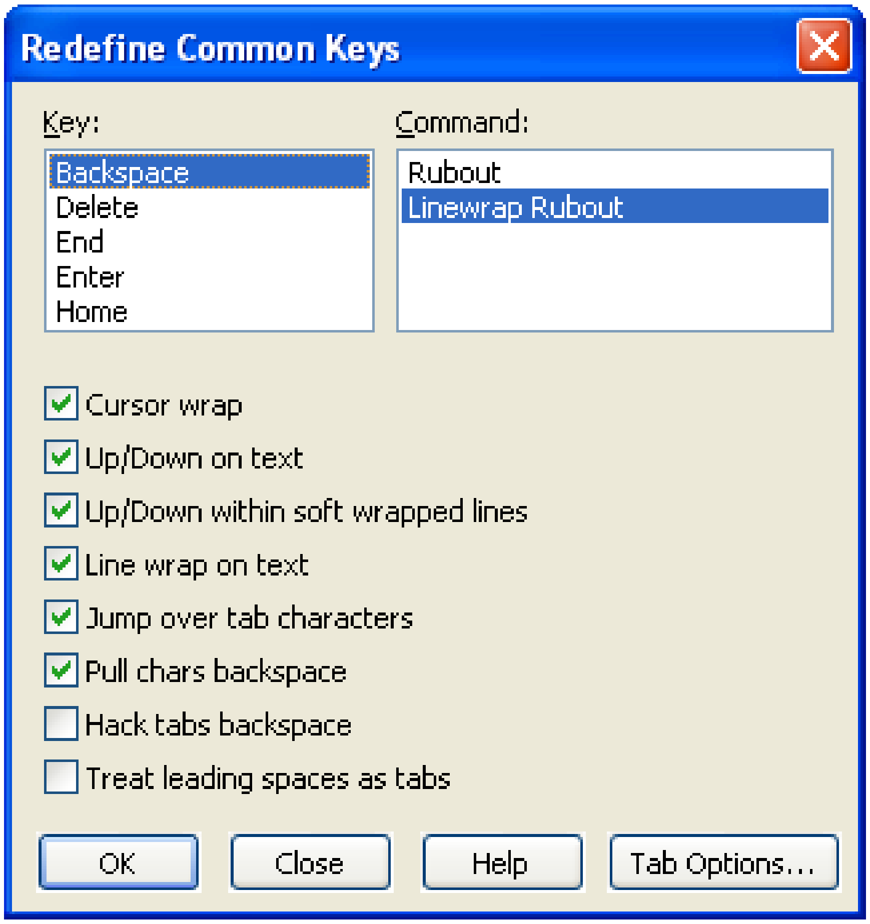
Key or Key Sequence	**Operation**
?	List matches to partially-typed parameter
Ctrl+**Shift**+**O**	Expand alias
Ctrl+**E**	Cut to end of line
Ctrl+**Backspace**	Cut line
Ctrl+**K**	Copy word to clipboard
Ctrl+**Shift**+**K**	Cut word
Ctrl+**Shift**+**L**	Lowercase word
Ctrl+**Left arrow**	Previous word
Ctrl+**Right arrow**	Next word
Ctrl+**V**	Paste
Ctrl+**X**	Cut
Ctrl+**C**	Copy
Ctrl+**Shift**+**X**	Append cut
Ctrl+**Shift**+**C**	Append to clipboard
Ctrl+**Shift**+**V**	List clipboards
Shift+**Home**	Select text between cursor and beginning of line
Shift+**End**	Select text between cursor and end of line
Shift+**Click**	Extend selection to mouse position
Backspace	Delete previous character or selection
Delete	Delete character under cursor or selection
Left arrow	Move cursor left
Right arrow	Move cursor right

Key or Key Sequence	Operation
End	Move cursor to end of line
Home	Move cursor to beginning of line
Double-click	Select word
Triple-click	Select line

Redefining Common Keys

Many users have a preference for the functions of the keys **Backspace**, **Delete**, **Enter**, **Tab**, and **Home**. The Redefine Common Keys dialog is designed for changing the function of these keys. To access this dialog, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Redefine Common Keys** setting.

Figure 3.5. Redefine Common Keys Dialog



Selected: Key: Backspace; Command: Linewrap Rubout

[✓] Cursor wrap
[✓] Up/Down on text
[✓] Up/Down within soft wrapped lines
[✓] Line wrap on text
[✓] Jump over tab characters
[✓] Pull chars backspace
[ ] Hack tabs backspace
[ ] Treat leading spaces as tabs

In the **Key** list box, select the name of the key that you want to configure. The commands available for that key are then displayed in the **Command** list box. Additional options can be set using the check boxes.

Click the **Tab Options** button to change the function of the **Tab** key. The **Indent** tab of the Extension Options dialog box is displayed. For more information on changing **Tab** key functions, see Indenting with Tabs.

For descriptions of all the elements on the Redefine Common Keys dialog, see Redefine Common Keys Dialog.

Chapter 4. User Preferences

Introduction to User Preferences

SlickEdit® Core can be customized to accommodate your own individual preferences. Most user preference information is available by clicking **Window** → **Preferences**, expanding **SlickEdit** and clicking **General** in the tree.

User preferences are broken into two categories: preferences that apply to all languages (global preferences), and preferences that apply to specific language extensions.

Tip

If you are using SlickEdit Core in a multiple user environment, each user must pass a local directory to eclipse using the command line flag **-vsconfig**. This allows each user to have their own configuration. If making modifications to `vslick.ini`, make a local copy of this file and place it in the **-vsconfig** directory file. See Changing the Configuration Directory for more information.

Global Preferences

Global preferences that can be set include the following:

- Emulation modes (see Emulations)
- Fonts and colors (see Setting Fonts and Colors)
- Auto Restore settings (see Restoring Settings on Startup)

Other global preferences, such as search settings, selection styles, etc., can be configured by using the General Options dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting). These options are described in the documentation on a contextual basis. For a flat listing of the options on the General Options dialog, see General Options Dialog.

Extension-Specific Preferences

The behavior of the editor can be customized for files based on specific language extensions. Indent, Word Wrap, Commenting, Auto-Complete, Context Tagging®, and other code-style settings are all extension-specific. These settings are located on the Extension Options dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). The options are described in the documentation on a contextual basis. For a flat listing of the options on the Extension Options dialog, see Extension Options Dialog.

For more information about working with language extensions, see Language-Specific Editing Overview.

Emulations

Emulation is the process of imitating another program. SlickEdit® Core provides emulations of key bindings for 13 editors so that you can use the style to which you are accustomed, making your coding experience as efficient as possible.

The Key Bindings dialog allows you see what keys or key sequences are bound to what commands. Emulation charts are also available as printable PDF documents in the `docs` subdirectory of your SlickEdit Core installation directory. See Key and Mouse Bindings for more information.

Supported Emulations

This section lists each emulation mode and any special notes.

- **BBEdit**
- **Brief** - This emulation relies heavily on **Alt** key bindings. In addition to Brief emulation support, SlickEdit® Core also supports Brief regular expressions. See Regular Expression Syntax for more information.
- **CodeWarrior**
- **CodeWright**
- **CUA** - CUA is an acronym for Common User Interface, a standard set of user interface guidelines similar to those used in Microsoft products. This is the default emulation mode used by SlickEdit Core.
- **Epsilon** - This emulation relies heavily on **Ctrl**+**X** and **Escape** (meta) key bindings.
- **GNU Emacs** - This emulation relies heavily on **Ctrl**+**X** and **Escape** (meta) key bindings. It does not include an Emacs Lisp emulator.
- **ISPF** - Support is included for ISPF prefix line commands, the ISPF command line, rulers, line numbering, and some XEDIT extensions. In addition to the ISPF emulation charts, additional documentation about using this emulation is available—see Using the ISPF and XEDIT Emulations.
- **SlickEdit® (Text Mode Edition)**
- **Vim** - The Vim emulation contains special keys and key sequences that are case-sensitive. A plus (+) sign separates the simultaneous key presses. For example, the key binding **Ctrl**+**x**,**k**, which closes the current file, indicates to press at the same time the **Ctrl** key and lowercase **x**, release, then press **k** to insert the lowercase k. Another example is the key binding **gP**, which pastes the text before the cursor. Press the **G** key (which inserts a lowercase **g**), release, then press **Shift** plus **p** at the same time (which inserts the uppercase P).
- **Visual C++ 6**
- **Visual Studio** - The key bindings provided for the Visual Studio emulation are not the same as the key bindings used in Visual C++, but there might be some overlap. If Microsoft Visual Studio does not

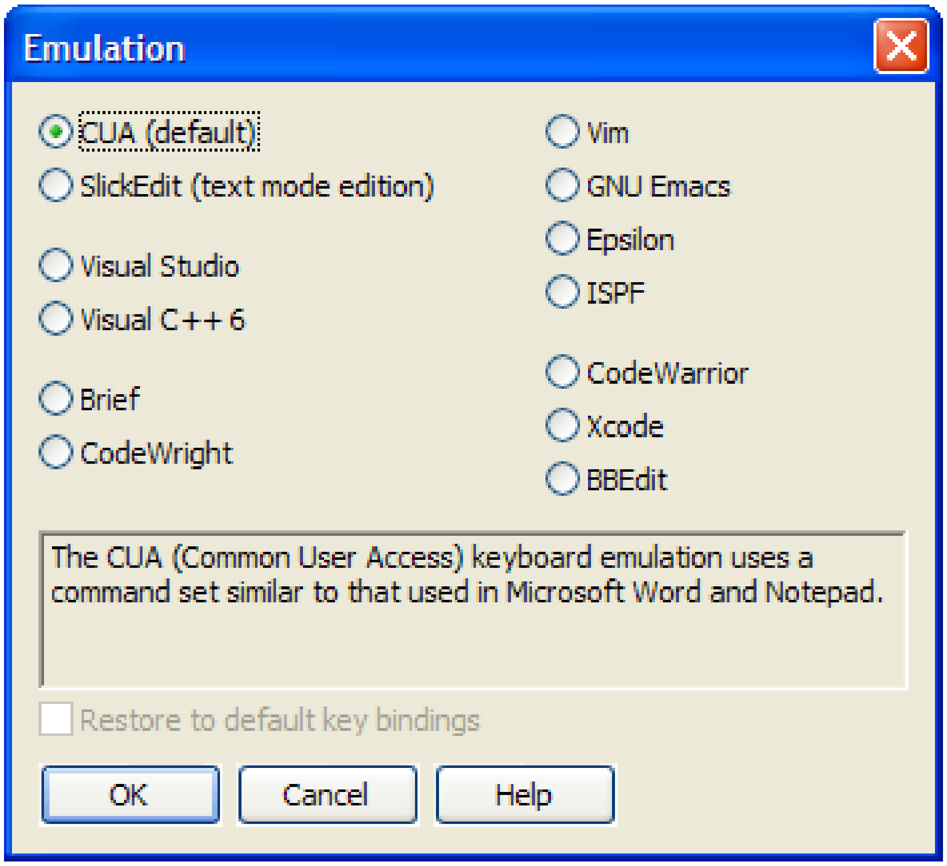
provide a default key binding for a particular SlickEdit Core command, the corresponding Visual C++ key binding is used.

- **Xcode**

Changing Emulations

After SlickEdit® Core is installed, you are prompted to choose an emulation. CUA is the default emulation mode. Key bindings and shortcuts mentioned in our documentation are based on this emulation. You can change emulation modes at any time: Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Emulation** setting.

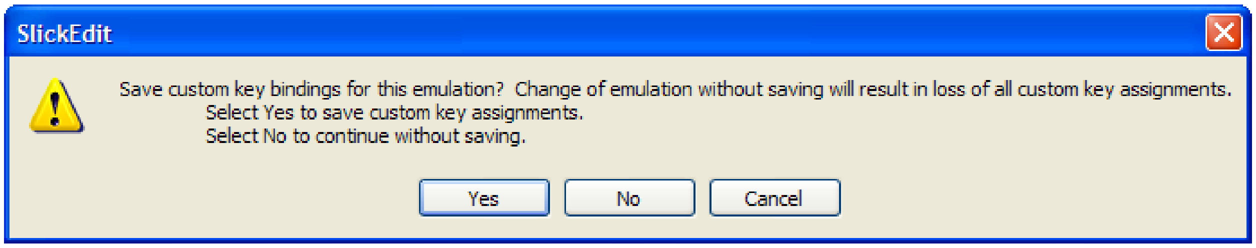
Figure 4.1. Emulation Options



The CUA (Common User Access) keyboard emulation uses a command set similar to that used in Microsoft Word and Notepad.

You should save custom key/mouse bindings for the current emulation before switching emulations. You can do this by exporting your custom bindings using the Key Bindings dialog (see Exporting and Importing Bindings), or you can save using the prompt that appears when switching emulations.

Figure 4.2. Emulation Prompt



Save custom key bindings for this emulation? Change of emulation without saving will result in loss of all custom key assignments.
Select Yes to save custom key assignments.
Select No to continue without saving.

By saving your custom key bindings when you switch emulations, when you return to the original emulation those bindings are automatically available. For example, if you have created and saved custom bindings in the CUA emulation, and then switch to Vim, switching back to CUA will make your custom bindings for CUA available again.

To remove custom key bindings for an emulation, resetting to the defaults, select the **Restore to default key bindings** option in the Emulation settings.

See Managing Bindings for more information on working with custom bindings.

Determining Keys/Functions

When/if you switch emulations, the key bindings that are assigned to commands change according to the emulation chosen. You can use the Key Bindings dialog to look up what command is bound to what key or key sequence (or vice-versa), or you can use the SlickEdit® Core menu and command line to determine these items. See Key and Mouse Bindings and Using the Command Line to View Key Binding Associations for more information.

Key and Mouse Bindings

Key and mouse bindings are quick ways to execute operations in SlickEdit® Core. Key bindings are the most efficient. Time is wasted each time you lift your hand from the keyboard to grab the mouse, and more time is wasted when you move your hand back to the keyboard in preparation for more typing. Therefore, if you learn the key bindings associated with operations that you use most frequently, you will save time coding. If an operation you use frequently isn't already bound by default, create your own easy-to-remember binding.

What is a Binding?

A key or mouse binding is a key sequence or mouse event associated with a command. Key terms are defined as follows:

- **Mouse event** - The clicking of any button or motion of the mouse wheel.
- **Key sequence** - A series of one or more keys or key combinations. For example, **Ctrl**+**X**,**R**.
- **Key combination** - Two or more keys pressed simultaneously. For example, **Ctrl**+**O**.
- **Key** - Any single key on the keyboard.

An example of a key binding with one key combination is **Ctrl**+**O** (in CUA emulation, associated with the **gui_open** command and **File** → **Open File**). The plus (+) sign between the keys indicates that these keys must be pressed simultaneously: press the **Ctrl** and **O** keys at the same time. Note that the last key is case-insensitive. You do not need to press **Shift**.

An example of a key binding with a key sequence is **Ctrl**+**X**,**R** (in Vim emulation, this binding is associated with the **redo** command and **Edit** → **Redo**). The comma (,) indicates that each key must be pressed consecutively: press **Ctrl** and **X** at the same time, release, then press the **R** key.

To view or change bindings, create new bindings, and export/import custom bindings, see Managing Bindings.

The available key bindings change depending on the selected emulation. While SlickEdit® Core provides emulations for 13 editors, CUA is the default emulation, so key bindings listed throughout the documentation will be for the CUA emulation. To change the emulation mode, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Emulation** setting. For more information, see Emulations.

Note

- For documentation purposes, both mouse events and keys that are bound to commands are often referred to collectively as *key bindings*.
- The main menu displays the key bindings for commands associated with each menu entry. See Menus Accessing Menus and Creating and Editing Menus for more information.

- A *menu hotkey* is a key sequence that corresponds to an underlined letter on a menu name.

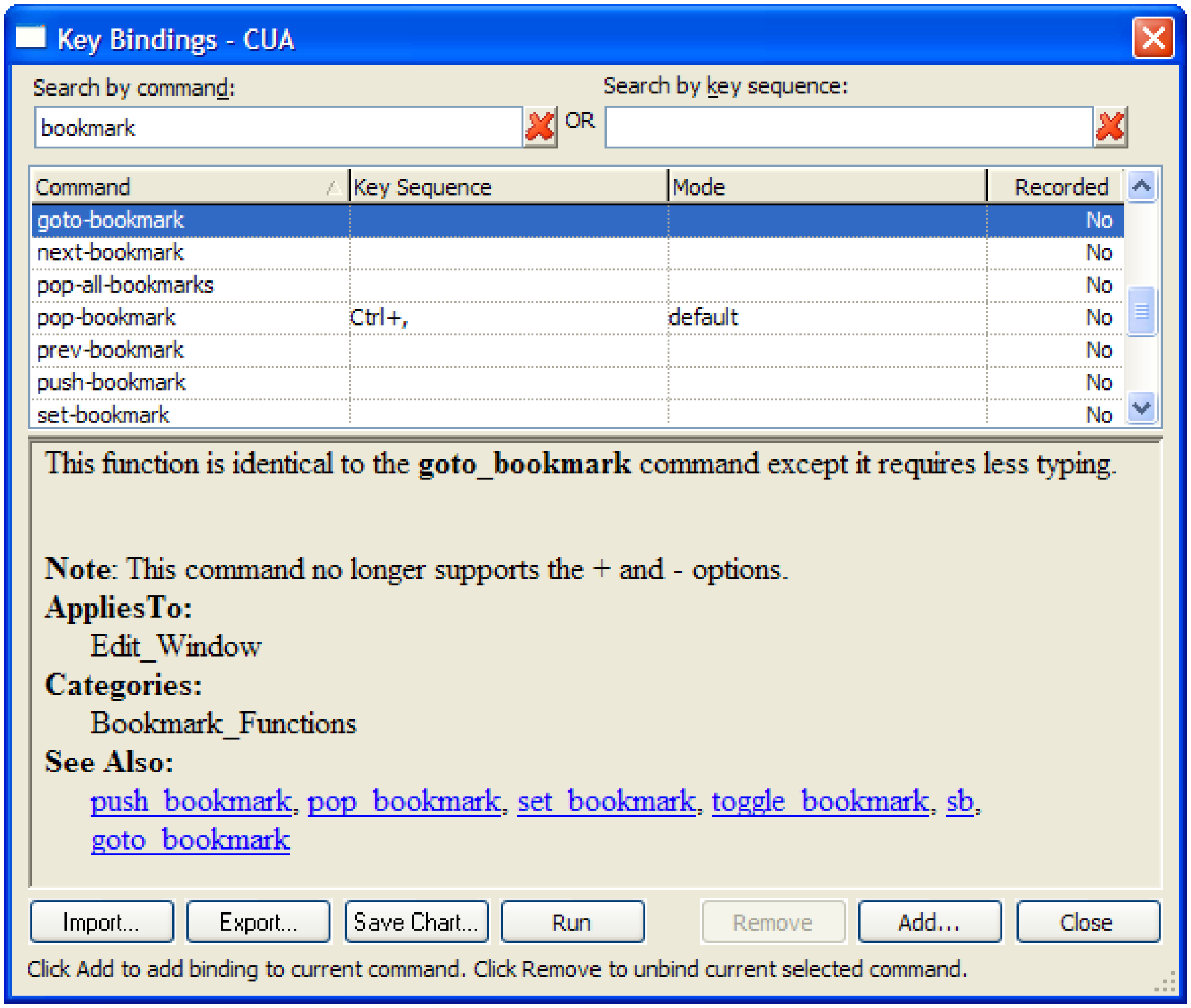
Managing Bindings

Create and manage key bindings using the Key Bindings dialog. The dialog displays a list of all SlickEdit® Core commands, including macros that you have recorded, their associated key sequences, and the language editing mode in which the key binding can be used. Documentation for the selected command, if available, is also displayed. The Key Bindings dialog provides capabilities to incrementally search by command or by key sequence, export and import custom bindings, save an HTML chart of your bindings, and run a selected command or user-recorded macro.

To access the Key Bindings dialog, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Key Bindings** setting, or use the **gui_keybindings** command.

The first time the Key Bindings dialog is invoked, the Building Tag File progress bar may be displayed while Slick-C® macro code is tagged.

Figure 4.3. Key Bindings Dialog



Command	Key Sequence	Mode	Recorded
goto-bookmark			No
next-bookmark			No
pop-all-bookmarks			No
pop-bookmark	Ctrl+,	default	No
prev-bookmark			No
push-bookmark			No
set-bookmark			No

This function is identical to the **goto_bookmark** command except it requires less typing.

Note: This command no longer supports the + and - options.
AppliesTo:
Edit_Window
Categories:
Bookmark_Functions
See Also:
push_bookmark, pop_bookmark, set_bookmark, toggle_bookmark, sb,
goto_bookmark

Click Add to add binding to current command. Click Remove to unbind current selected command.

Bindings are based on the editor emulation mode (CUA is the default). The title bar of the Key Bindings dialog shows the current emulation. (To change the emulation mode, see Changing Emulations.)

The **Search by command** and **Search by key sequence** boxes are used to filter the data. See Viewing and Filtering Bindings.

The **Command** column shows all of the SlickEdit Core commands including macros that you have recorded. The **Key Sequence** column shows the key sequence or mouse event to which the command/macro is bound. If there is no binding, this field is empty. The **Mode** column shows the language editing mode to which the binding is assigned. The **Recorded** column indicates if the item is a command (**No**) or user-recorded macro (**Yes**).

Tip

What is a *language editing mode*? SlickEdit Core uses the extension of the current file to determine what language you are using, thereby only making available the options and features that are possible or useful in that language. You can also manually set the language editing mode. See

Language Editing Modes for more information.

The bottom of the dialog contains documentation (if available) for the selected command.

Columns can be sorted by clicking on the column headers. An up or down arrow in the column header indicates ascending or descending sort order. All of the columns as well as the documentation pane can be resized by dragging the separator bars.

The sections below describe different ways to use the Key Bindings dialog. For a listing and descriptions of elements on this dialog, see Key Bindings Dialog.

Viewing and Filtering Bindings

You can filter the data in the Key Bindings dialog by using the **Search by command** and **Search by key sequence** boxes at the top. This is useful for finding a command/macro for creating, editing, or removing a binding, and for determining what key sequences are associated with a command/macro and vice-versa.

- To find a command/macro, search for it by entering a string in the **Search by command** box. The column of commands is filtered incrementally as you type, to show only commands that contain the specified string. Commands that have more than one key sequence associated with them are listed on separate rows. For example, in CUA emulation, the command **gui_open** is bound to **F7** and **Ctrl**+**O**. Therefore, **gui_open** appears in the **Command** column three times–one row per key sequence.

- To find a key sequence, place the focus in the **Search by key sequence** box (by tabbing or using the mouse) and then press the actual key or key sequence. The column of key sequences is filtered to show only bound sequences that contain the specified key(s). For example, to see all commands/macros that are bound to **Ctrl**+**O**, with the focus in the search box, simply press **Ctrl**+**O**.

To clear either field, click the red **X** button to the right of each box. This is especially handy for the key sequence search, due to the fact that the field recognizes any keyboard/mouse input including **Backspace**.

Alternatively, you can use the **what_is** and **where_is** commands (**Help** → **What Is Key** and **Help** → **Where Is Command**) on the SlickEdit Core command line to determine binding associations. See Using the Command Line to View Key Binding Associations for more information.

Creating Bindings

You can work more efficiently if you create key/mouse bindings for commands or user-recorded macros that you use frequently. To create a new key or mouse binding:

1. Using the Key Bindings dialog, find the command or user macro you want to bind. You can search for a command/macro by entering a string in the **Search by command** box (see Viewing and Filtering Bindings).

2. Initiate the binding by using one of the following methods:

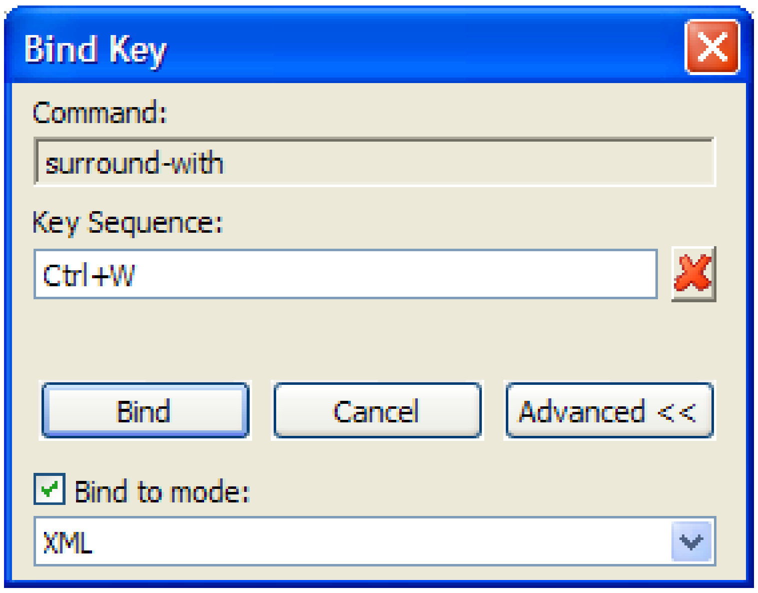
   - Select the row, then click the **Add** button.

   - Select the row, then press **Enter**.

- Double-click on the row.

3. When you initiate a binding, the Bind Key dialog is displayed with focus in the **Key Sequence** box.

Figure 4.4. Bind Key Dialog



- For a key binding, press the key sequence just as you would to use it. For example, to bind **surround_with** to **Ctrl**+**W**, simply press **Ctrl**+**W**. The key sequence you pressed is displayed in the box.
- For a mouse binding, click the mouse button you want to use. For example, to bind **surround_with** to the right-click mouse event, simply right-click with the mouse, and RButtonDn is displayed in the box.

Use the red **X** button to clear the input field if you make a mistake. If you enter a key sequence or mouse event that is already assigned to another command/macro, a warning prompt is displayed. If you continue, the previous binding is unbound and reassigned.

Tip

- SlickEdit Core allows key sequences that are very long, but shorter sequences are easier to remember and more practical to use.
- Do not begin key sequences with keys that are normally used in typing. Otherwise, these keys will launch the operation and not appear when you type. For example, binding a command to the **A** key will prevent you from using that letter in your code. It is best to always begin your key sequences with a **Ctrl** or **Alt** key combination.

4. The **default** language editing mode is the default language editing mode for new bindings, which means the binding will work in all language editing modes. If you want the binding to work only in a

specific language editing mode, you can change it now by clicking the **Advanced** button on the Bind Key dialog. Click **Bind to mode**, then from the drop-down list, select the mode for which the binding should apply. Bindings assigned to a specific language editing mode override those assigned to **default**.

Tip

You can create multiple bindings for the same command/macro and have one binding set to default and the others set to specific modes. In this case, when you are editing in a specified mode, that binding is in effect, and when editing in any other language editing mode not specified, the default binding will be in effect. For example, in CUA emulation, **Ctrl**+**L** is bound to **select_line** by default, but when in HTML mode, you may want to use **Ctrl**+**L** to insert an HTML link instead (**insert_html_link** command). Therefore, you can bind **Ctrl**+**L** to **insert_html_link** and specify the HTML mode for use only when editing HTML files.

5. When finished, click **Bind**. The key sequence or mouse event now appears in the **Key Sequence** column on the Key Bindings dialog.

Editing Bindings

To change the binding or language editing mode for a command/macro that is already bound, you will need to first unbind the command/macro, then recreate it. See Removing Bindings and Creating Bindings. If you have advanced knowledge of SlickEdit® Core, you can edit the Slick-C® key binding source directly. See Editing the Key Binding Source for more information.

Removing Bindings

To remove a binding:

1. Using the Key Bindings dialog, find the command/user macro or key sequence that you want to unbind. You can search by using the search boxes at the top (see Viewing and Filtering Bindings).

2. With the command/macro row selected, click **Remove**, or press **Delete**. You are prompted to confirm the unbind operation.

Exporting and Importing Bindings

Key and mouse bindings can be exported out of the editor and imported in, useful for creating backups, sharing with other team members, or taking with you should you switch computers.

Exporting Bindings

When you export bindings using the Key Bindings dialog, custom bindings for all language editing modes in the current emulation are exported into an XML file with a name and location that you can specify.

To export your bindings:

1. Click the **Export** button on the Key Bindings dialog. The Save As dialog is displayed.

2. If you want, change the directory location and change the file name to something more meaningful to you, such as `myname_cua.xml`.

3. Click **Save**.

Importing Bindings

Imported bindings override any existing bindings for the selected emulation. For example, if you have the **surround_with** command bound to **Ctrl**+**W**, and import **surround_with** bound to **Ctrl**+**Q**, then **Ctrl**+**Q** is now the binding for that command in the selected emulation. When you import for the selected emulation, SlickEdit® Core resets the key bindings to the default, then loads the user key bindings.

If you import a key bindings file from a different emulation than the one currently selected, a warning is displayed that prompts whether or not you want to continue. If you continue, the emulation mode is changed and the key bindings are loaded for that emulation.

To import bindings:

1. Click the **Import** button on the Key Bindings dialog. The Open dialog is displayed.

2. Find and select a bindings file that was previously exported, then click **Open**.

Saving a Bindings Chart

Click the **Save Chart** button on the Key Bindings dialog to save an HTML reference chart of all current bindings for all language editing modes in the selected emulation. Commands and user macros that are not bound are not included.

Running a Command/Macro using the Key Bindings Dialog

If you have the Key Bindings dialog open, you can conveniently run a selected command or user-recorded macro by clicking the **Run** button.

Resetting Default Bindings

To reset bindings for the selected emulation to the SlickEdit® Core defaults, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **Emulation** in the tree, then select the **Restore to default key bindings** option. See Emulations for more information.

Key Binding Settings

The following are settings that you can make pertaining to key bindings.

Key Message Delay

For key bindings that contain multiple key combinations, like **Ctrl**+**X**,**Ctrl**+**C**, you can specify the maximum delay between the two combinations. If that time limit is exceeded, this key sequence will be interpreted as two separate bindings, executing the command bound to **Ctrl**+**X** followed by the command bound to **Ctrl**+**C**, rather than the command bound to **Ctrl**+**X**,**Ctrl**+**C**.

To change this option, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. In the **Key message delay** spin box, enter the amount to delay before a prefix key in tenths of a second. The prefix key is not displayed if the next key is pressed before the delay specified in this text box.

Using Shorter Key Names in Menus

The main menu displays the key bindings for commands associated with each menu entry. These bindings can be condensed for non-CUA emulations. See Menus for more information.

Cursor, Mouse, and Scroll Settings

This section describes settings for the cursor, mouse, and scroll style. For cursor navigation information, see Cursor Navigation.

Setting the Cursor Style

You can use a text mode style cursor instead of a vertical cursor. To set this option, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, then select the option **Use block cursor**.

Hiding the Mouse Pointer

To hide the mouse pointer when typing, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, then select the option **Hide mouse pointer**. The mouse pointer is then only displayed when moving the mouse or when a dialog box is displayed.

Displaying Tool Tips

By default, hovering the mouse pointer over a button displays a tool tip about the item. To turn tool tips off or to change the amount of time before tool tips are displayed, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, then clear the option **Show tool tips**, or change the value in the **Delay** spin box. The **Delay** value is in tenths of a second.

Scroll Style Settings

To set the scroll style, select the More Tab on the General Options dialog, then select the **Scroll style** setting that you wish to use. Commands that move the cursor more than one page of text, such as searching, always center scroll text into view. The following scroll settings are available:

- **Center** - When center scrolling is on and the cursor moves out of view the cursor will be centered and the text will move by half the height or width of the window.
- **Smooth** - Smooth scrolling is a line by line scroll of the screen that occurs when the cursor moves out of view. Smooth scrolling is the default configuration.
- **Scroll when** - Specifies how close (in number of lines) the cursor may get to the top or bottom of the window before scrolling occurs. Does not affect horizontal scrolling.

Setting Fonts and Colors

The SlickEdit® Core editor and views do not use the Eclipse color and font settings. To change the fonts and colors in the SlickEdit Core editor and views, change the color and font settings using the SlickEdit Core options.

For information about changing the colors of code, such as colors used for keywords, see Color Coding.

Fonts

SlickEdit® Core provides the capability to change the fonts used by edit windows, the command line, status text, and other screen elements. Recommended fonts are listed. You can also set fonts for editor windows.

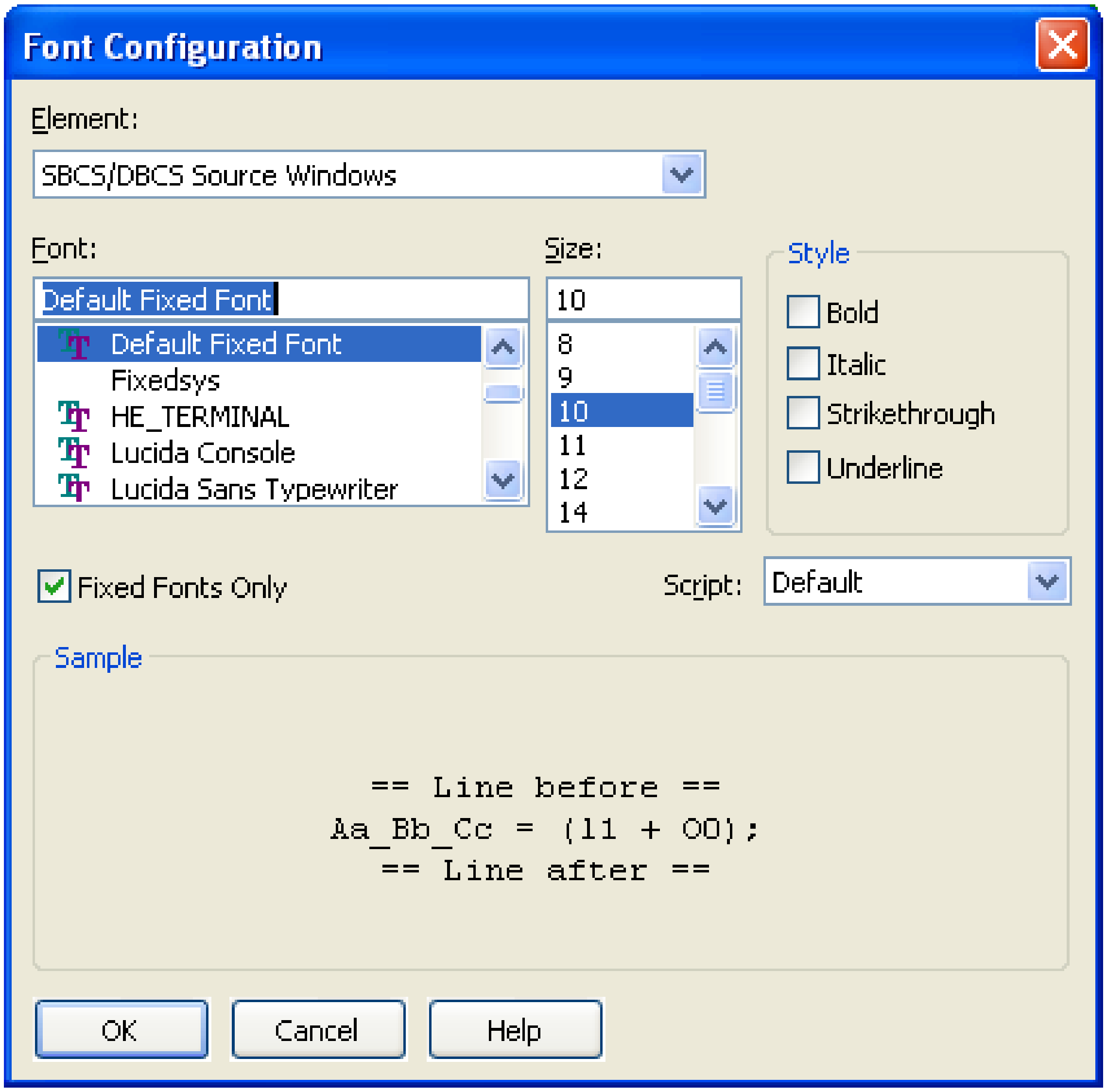
Tip

Xft fonts are supported on Linux.

Setting Fonts for Screen Elements

To configure font settings for screen elements, use the Font Configuration dialog. To access this dialog, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Font** setting.

Figure 4.5. Font Configuration Dialog



Element: SBCS/DBCS Source Windows

Font: Default Fixed Font

- Default Fixed Font
- Fixedsys
- HE_TERMINAL
- Lucida Console
- Lucida Sans Typewriter

Size: 10

- 8
- 9
- 10
- 11
- 12
- 14

Style: Bold, Italic, Strikethrough, Underline

[✓] Fixed Fonts Only

Script: Default

Sample

```
== Line before ==
Aa_Bb_Cc = (11 + OO);
== Line after ==
```

For descriptions of the options on this dialog, see Font Configuration Dialog.

Recommended Fonts for Elements

Font recommendations are given for the best screen display. The information below contains recommended fonts for some of the screen elements.

Note

Some font names are portable font names which are translated into other fonts. This allows Slick-C® macros and dialog boxes to be portable across Windows and UNIX.

Command Line Fonts

The following table contains recommendations, based on the operating system, for the **Command Line** font element:

Table 4.1. Command Line Font Recommendations

Platform	Font Recommendation
Windows	Choose Courier, Courier New, OEM Fixed Font, or Terminal fonts for the most visually appealing character displays.
Linux	Choose Courier, Lucida Sans Typewriter or a console font for the most visually appealing character displays. If these fonts are not visible, look for the UNIX fonts below.
UNIX	Choose Adobe Courier, B&H Lucida Typewriter, or Width x Height family fonts for the most visually appealing fixed fonts.

Selection List Fonts

Choose **Courier** for best display of selection lists that need a fixed font.

Dialog Box Fonts

Choose **MS Sans Serif** as an attractive font for dialogs.

Text Box Fonts

Choose **System** or **MS Sans Serif** for fonts used in text boxes.

SBCS/DBCS Source Window Fonts

This is the element used for all non-Unicode source windows. Choose **Terminal** for the most attractive visual display.

Unicode Source Window Fonts

Default Unicode Font is the default font for the Unicode Source Windows element. When this font is selected, the **Arial Unicode MS** font is used if it is installed. Otherwise, the **ANSI Fixed Font** is used, which only supports the English character set. Arial Unicode MS is a fairly complete font which is included with Microsoft Office. Currently, no version of Windows ships with a complete Unicode font. For more information on Unicode support, see Using Unicode.

Colors

Use the Color Settings dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting; alternatively, use the **color** command) to set the color for different screen elements in SlickEdit® Core. This includes syntactic elements in the editor window, like keywords, comments, strings, etc. as well as other user interface elements like the message area or the status line. Window colors and backgrounds are set using the facilities provided by the operating system.

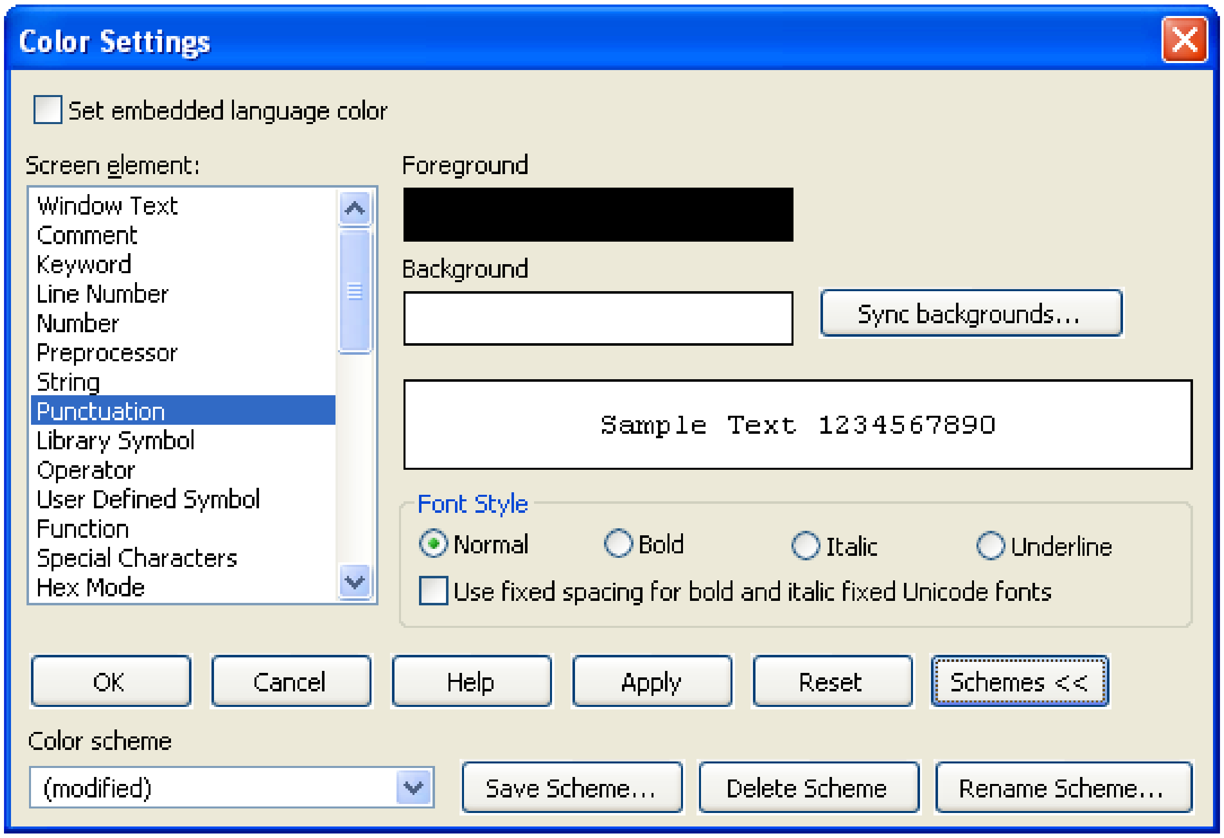
Color and Color Coding are different. Color Coding is a feature that combines current line coloring, modified line coloring, and language-specific coloring. SlickEdit Core recognizes and automatically displays color support for many languages. See Color Coding for more information.

Setting Colors for Screen Elements

Colors can be customized in the user interface. Colors can be set either individually or by editing a scheme. To change the default colors, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting (or use the **color** command). The Color Settings dialog box is displayed.

Figure 4.6. Color Settings Dialog



☐ Set embedded language color

[✓ Normal] Bold Italic Underline

☐ Use fixed spacing for bold and italic fixed Unicode fonts

Color scheme: (modified)

2. Select the element you want to change from the **Screen element** list box (for descriptions of some of these elements, see Color Settings Dialog).

3. Set the **Foreground** and **Background** colors by clicking on the color squares. The Color Picker dialog

is displayed, allowing you to pick a color from the palette, or set your own custom color using RGB values.

Note

If you have chosen the **Selection** screen element, note that SlickEdit Core will attempt to render selections using your normal color settings for the **Foreground** color. The selected foreground color will only be used if there is not enough contrast between the font colors to be readable. It is best to specify a **Background** color for selections that is as close as possible to your normal background color, ensuring that the color-coded fonts are still easy to read.

4. If you change the background color for an element in the editor window, you can use the **Sync Backgrounds** button to propagate the background color for the currently selected element to other related elements. For example, if you change the background color for Keywords you will probably want that same color used for Strings, Comments, Numbers, etc. The **Sync Backgrounds** button prevents you from having to manually make all these changes.
5. If you want, choose a **Font Style** for the text.
6. Click **Apply** to update the colors that you have modified without closing the dialog box, or click **OK** to apply the changes and close the dialog.

For a complete list of all of the options available on the Color Settings dialog, see Color Settings Dialog.

Using Color Schemes

Color schemes store the settings for all screen elements, allowing you to quickly change the look of your editing environment. Several predefined color schemes are provided, and you can create your own.

To use color schemes, click the **Schemes** button on the Color Settings dialog (see the previous screen shot). To try a different color scheme, from the **Color scheme** drop down text box, select a color scheme and click **Apply**. A sample of the color scheme is displayed in the **Sample** text box. To use this color scheme, click **OK**.

To define a new color scheme, set your colors for the various screen elements and click **Save Scheme**. User-defined color schemes are stored in the `uscheme.ini` file located in your configuration directory. You can change the name of a scheme by clicking **Rename Scheme**.

Setting an Embedded Language Color

The option **Set embedded language color** allows you to specify the colors used for embedded languages. These occur when a file of one type embeds a language of another type within it, like HTML files containing JavaScript. For HTML, the syntax color coding recognizes the **<script language="???">** tag and uses embedded language colors for the new language. In addition, for Perl and UNIX shell scripts, you can prefix your **HERE** document terminator with one of the color coding lexer names to get embedded language color coding. The following is an example for Perl:

```
print <<HTMLEOF
<HTML><HEAD><TITLE>...</TITLE></HEAD>
```

```
<BODY>
...
</BODY>
</HTML>
HTMLEOF
```

Restoring Settings on Startup

By default, the files, current directory, and more from the previous edit session are automatically restored when you switch workspaces or close and re-open the editor.

To access auto restore settings, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. The **Auto restore** options, listed below, control which elements of your SlickEdit Core environment that are restored.

- **Files -** (Unavailable in SlickEdit Core) If checked, the files and windows that were opened in your last edit session are restored and re-opened when you start the editor.
- **Clipboards** - If checked, clipboards are saved across edit sessions.
- **Working directory -** (Unavailable in SlickEdit Core) If checked, the working directory is saved across edit sessions.
- **Workspace files -** (Unavailable in SlickEdit Core) If checked, when switching workspaces, the files and windows that were opened for a workspace when it was last closed will be restored.
- **Line modify -** If checked, the line modification flags are saved and restored when you save and open files, respectively. Line modification information for the last 200 files is saved. SlickEdit Core stores line modification information in temporary files placed in the `SelDisp` directory. This option works best when the **Modified Lines** color coding option is selected (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **File Extension Setup** setting and select the Advanced Tab).
- **Selective display** - If checked, Selective Display is saved and restored when saving and opening files, respectively. Selective Display for the last 200 files is saved. See Selective Display for more information.
- **Symbol browser tree -** If checked, the symbol browser tree (see Symbols View) is restored across edit sessions. The current position (displayed selected) is always restored regardless of this setting.

Chapter 5. Context Tagging®

Context Tagging® Overview

Context Tagging is a feature set that performs expression type, scope, and inheritance analysis as well as symbol look-up within the current context to help you navigate and write code. Context Tagging uses an engine that parses your code and builds a database of symbol definitions and declarations—commonly referred to as *tags*. Context Tagging features work with *your* source code, not just standard APIs (application program interfaces), and the features are dynamic, in the sense that symbols are updated immediately or in the background as you edit your source code.

The Context Tagging feature set includes:

- Tag-Driven Navigation
- List Members
- Parameter Information
- Auto List Compatible Parameters
- Completions
- Symbol Browsing
- Statement Level Tagging

Before you begin working with these features, some configuration is required. See Building Tag Files.

Tag-Driven Navigation

The Context Tagging® database allows you to navigate your code, jumping from a symbol to its definition or its references. For more information, see Symbol Navigation.

List Members

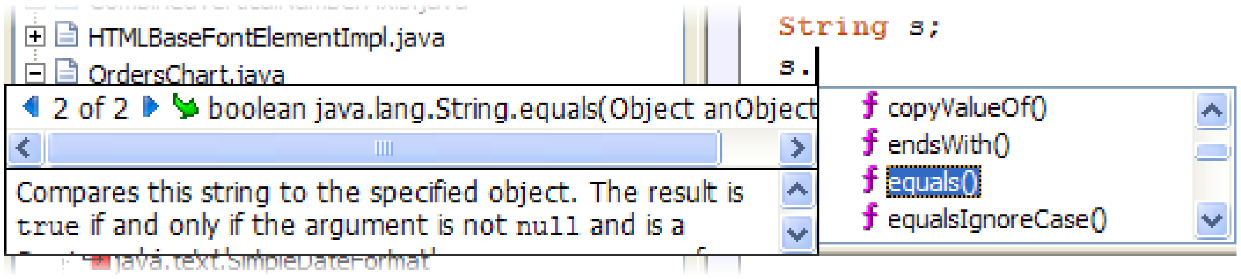
When typing a member access operator (**Dot**, **Comma**, **->**, and **:** for C++; **Dot** for Java; **IN** and **OF** for COBOL), members are automatically listed. You can access this feature on demand by pressing **Alt**+**Dot**, finding identifiers when there is no member operator (list locals, global variables, current class members, etc.). For example, for the C language, to find a string function, type the string on the command line and press **Alt**+**Dot**. If you want to disable automatic listing and only list members on demand, turn List Members off, as follows:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting.
2. On the Extension Options dialog, select the extension you want to affect from the **Extension** drop-down list.
3. Select the Context Tagging Tab.

4. Clear the **Auto-list members** check box.

The following example shows the results of what is displayed after typing a **Dot** when entering Java source. Notice that the Javadoc comments are displayed in a mini-HTML browser. To view documentation for Java APIs, you must install the source files as part of the JDK. If clicking on a URL, the default HTML browser starts. Clicking on other hypertext links navigates within the comment window. The equals method in the example below has two occurrences, one in the String class and one in the Object class. Press **Ctrl**+**PgDn** or **Ctrl**+**PgUp** to select the next or previous occurrence.

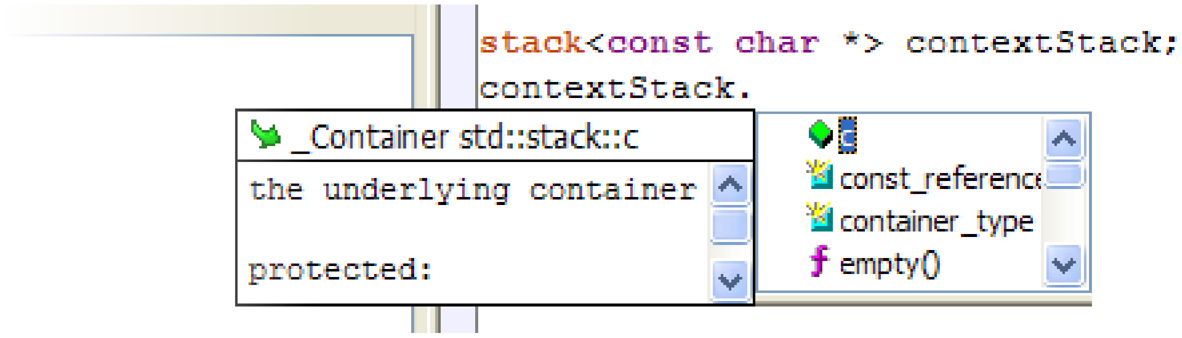
Figure 5.1. List Members: Example 1


```
String s;
s.
```
2 of 2 boolean java.lang.String.equals(Object anObject

Compares this string to the specified object. The result is true if and only if the argument is not null and is a

The example below shows the display after typing a **Dot** when entering C++ source code. The stack class is one of the C++ standard template library classes.

Figure 5.2. List Members: Example 2


```
stack<const char *> contextStack;
contextStack.
```
_Container std::stack::c

the underlying container

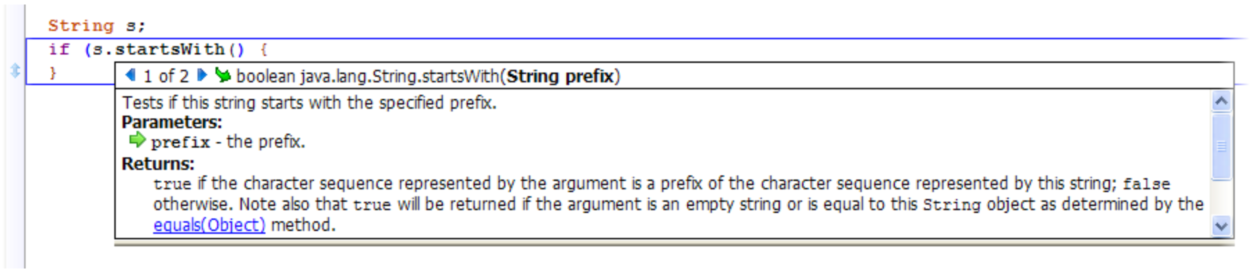
protected:

Parameter Information

The prototype for a function is automatically displayed when typing a function operator such as the open parenthesis. This also highlights the current argument within the displayed prototype. When working with C++, parameter info is also automatically displayed when typing a template argument operator such as **<**.

The following example shows the result of pressing **Alt**+**Comma** inside the argument list of the Java API String method **startsWith**. The Javadoc comments are displayed in a mini-HTML browser. To view documentation for Java APIs, you must install the source files as part of the JDK. If clicking on a URL, the default HTML browser starts. Clicking on other hypertext links will navigate within the comment window. The **startsWith** method has two overloads that accept different arguments. Press **Ctrl**+**PgDn** or **Ctrl**+**PgUp** to select the next or previous occurrence.

Figure 5.3. Parameter Info: Example 1



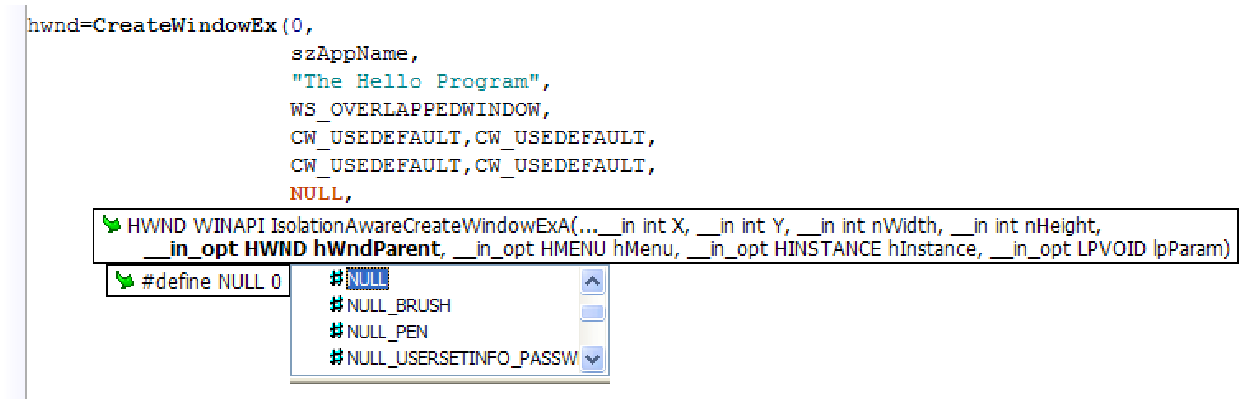
```
String s;
if (s.startsWith() {
}
```

1 of 2 boolean java.lang.String.startsWith(**String prefix**)

Tests if this string starts with the specified prefix.
Parameters:
prefix - the prefix.
Returns:
true if the character sequence represented by the argument is a prefix of the character sequence represented by this string; false otherwise. Note also that true will be returned if the argument is an empty string or is equal to this String object as determined by the equals(Object) method.

The example below shows the result of pressing **Alt**+**Comma** inside the argument list of the WIN32 API function **CreateWindowEx**.

Figure 5.4. Parameter Info: Example 1



```
hwnd=CreateWindowEx(0,
                    szAppName,
                    "The Hello Program",
                    WS_OVERLAPPEDWINDOW,
                    CW_USEDEFAULT,CW_USEDEFAULT,
                    CW_USEDEFAULT,CW_USEDEFAULT,
                    NULL,
```

HWND WINAPI IsolationAwareCreateWindowExA(...__in int X, __in int Y, __in int nWidth, __in int nHeight, **__in_opt HWND hWndParent**, __in_opt HMENU hMenu, __in_opt HINSTANCE hInstance, __in_opt LPVOID lpParam)

#define NULL 0

Auto List Compatible Parameters

When typing a function operator such as the open parenthesis, **(**, a list of compatible variables and expressions for the current argument is displayed. Auto List Compatible Parameters can also be used instead of List Members, in assignment statements (**x=<Alt+Comma>**) and when listing members of a class or struct. Keep in mind, not all possible variables and expressions are listed. Press **Alt**+**Dot** if the symbol that you want is not listed. To access Auto List Compatible Parameters on demand, press **Alt**+**Comma**. If you want to disable automatic listing and only list parameters on demand, turn Auto List Compatible Parameters off, as follows:

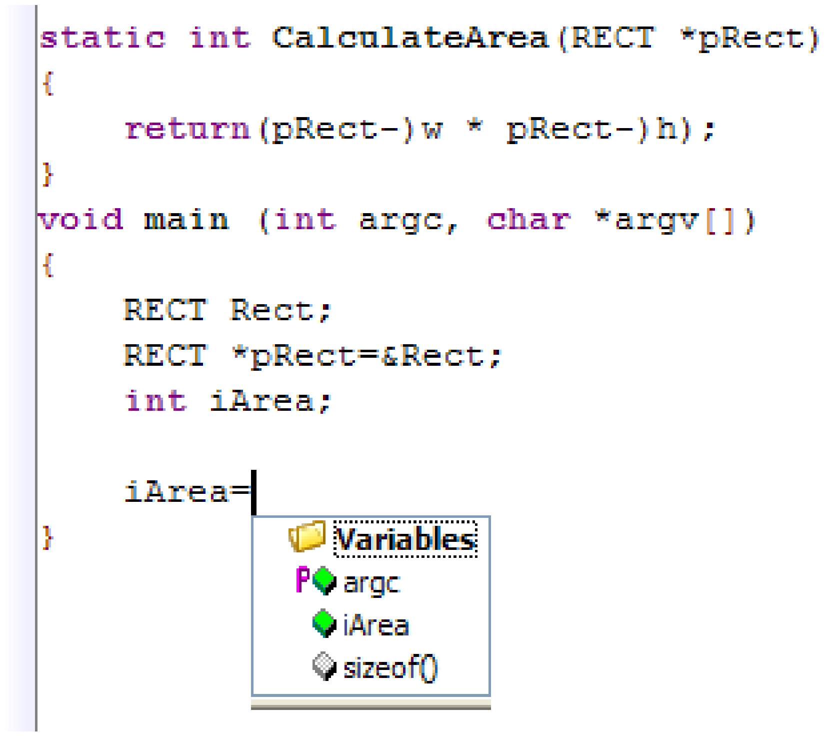
1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting.

2. On the Extension Options dialog, select the extension you want to affect from the **Extension** drop-down list.

3. Select the Context Tagging Tab.

The following example displays the results of pressing **Alt**+**Comma** after an assignment operator. The **Rect**, **pRect**, and **argv** are not listed because their types do not match.

Figure 5.5. Auto List Compatible Parameters



```
static int CalculateArea(RECT *pRect)
{
    return(pRect->w * pRect->h);
}
void main (int argc, char *argv[])
{
    RECT Rect;
    RECT *pRect=&Rect;
    int iArea;

    iArea=
}
```

Completions

Completions save keystrokes as you are typing code by providing a way to automatically complete partially-typed text. Press **Ctrl**+**Space** to complete (type the rest of) the current symbol. If a unique match is not found, a list is displayed allowing the selection of the exact match. See Completions for more information about working with this feature.

Symbol Browsing

SlickEdit® Core gives you the ability to browse and view symbols in your files or workspaces. There are several views that display information as you work to help you find what you need exactly when you need it. To open one of these views, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click the view you want to see.

- **Class** - This view provides an outline of both the members of the current class as well as any visible inherited members. It also shows the inheritance hierarchy of the current class.
- **Outline** - The Outline view provides an outline of symbols in the current workspace.

- **Find Symbol** - This view is used to locate symbols (tags) in your code. It allows you to search for symbols by name using either a regular expression, substring, or fast prefix match. A quicker way to access this view is to use the **Search** → **Find Symbol** menu item.
- **Preview** - Preview provides a portal for viewing information in other files without having to open them in the editor. It automatically shows this information when you are working with certain features.
- **References** - This view displays the list of symbol references (uses) found the last time that you used the Go to Reference feature (**Ctrl**+**/** or **push_ref** command—see Symbol Navigation for more information).
- **Symbols** - The Symbols view contains the symbol browser, which lists symbols from all of the tag files.

For more detailed information about these views and how SlickEdit Core can help you browse symbols, see Symbol Browsing. For information about how to navigate between symbols in files, see Symbol Navigation.

Statement Level Tagging

Statement Level Tagging is a feature of Context Tagging ® that provides a more detailed view of items in the Outline view for C/C++, Java, Python, and Visual Basic .NET. Along with definitions, view constructs like **if**, **while**, and **for** statements. It also displays every non-comment line of code. To see this feature in action, from the Outline View, right-click and select **Show Statements**.

Building and Managing Tag Files

Context Tagging® creates tag files to store information about symbols and, optionally, cross-reference information from your source code. Many of the most powerful SlickEdit® Core features use this information to speed your coding.

Building Tag Files

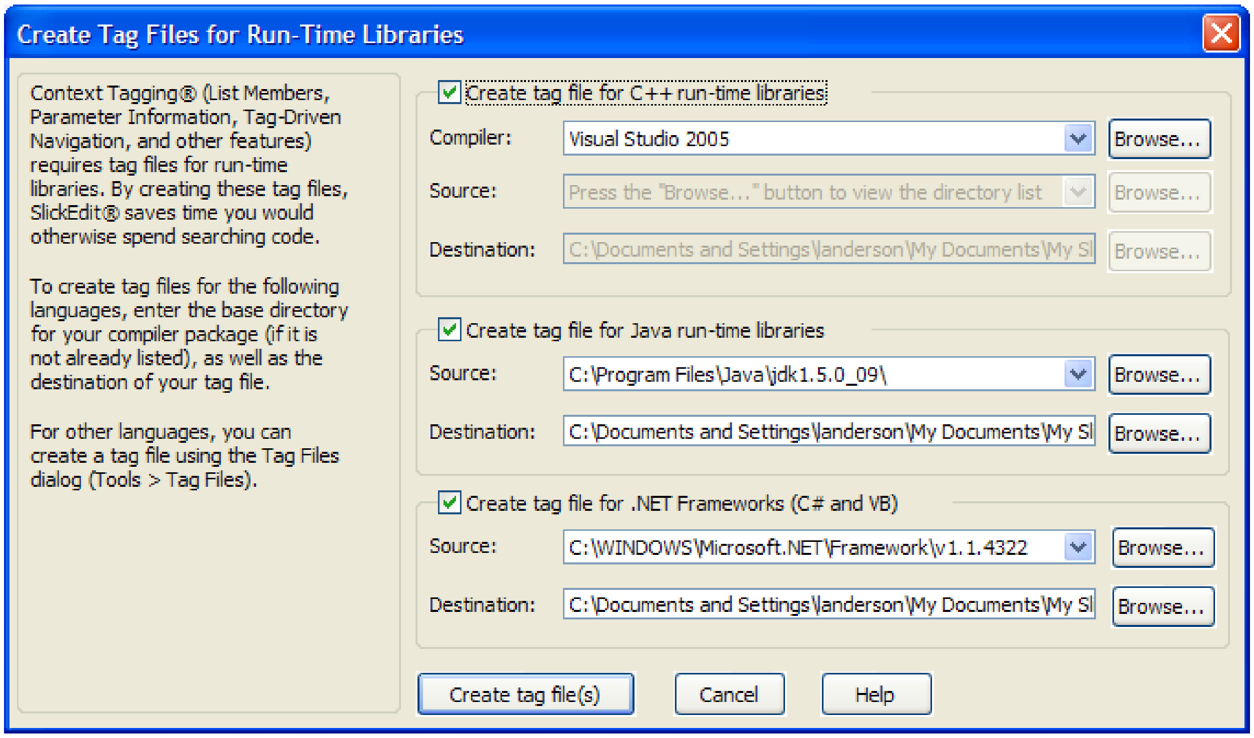
Tag files are automatically created and maintained for files in the workspace (see Creating Tag Files for Run-Time Libraries). You may need to create extension-specific tag files for compiler includes or other libraries that you have (see Tagging Run-Time Libraries).

After a tag file is created, it is updated in the background when you make modifications. If you modify some source files using a different application, you will need to rebuild the tag file. Tag file names have the extension `.vtg`. By separating tag files for different languages, the Context Tagging features can identify symbol information for the file that you are currently editing.

Creating Tag Files for Run-Time Libraries

The Create Tag Files for Run-Time Libraries dialog appears when SlickEdit® Core is run for the first time. It allows you to build tag files for commonly used languages and their libraries, including C, C++, Java, and .NET. You can access this dialog at any time in order to create tag files, from the Context Tagging - Tag Files Dialog (click **Tools** → **Tag Files**, then click **Auto Tag**).

Figure 5.6. Automatic Tagging Dialog



Context Tagging® (List Members, Parameter Information, Tag-Driven Navigation, and other features) requires tag files for run-time libraries. By creating these tag files, SlickEdit® saves time you would otherwise spend searching code.

To create tag files for the following languages, enter the base directory for your compiler package (if it is not already listed), as well as the destination of your tag file.

For other languages, you can create a tag file using the Tag Files dialog (Tools > Tag Files).

✓ Create tag file for C++ run-time libraries

Compiler: Visual Studio 2005

Source: Press the "Browse..." button to view the directory list

Destination: C:\Documents and Settings\janderson\My Documents\My Sl

✓ Create tag file for Java run-time libraries

Source: C:\Program Files\Java\jdk1.5.0_09\

Destination: C:\Documents and Settings\janderson\My Documents\My Sl

✓ Create tag file for .NET Frameworks (C# and VB)

Source: C:\WINDOWS\Microsoft.NET\Framework\v1.1.4322

Destination: C:\Documents and Settings\janderson\My Documents\My Sl

To create tag files for the languages listed, enter the base directory for your package (if it is not already filled in), as well as the destination of your tag file. Click **Create tag file(s)** and the Building Tag Files dialog box opens showing the progress as the tag file is built.

For source files other than these languages, use the Add Tag File dialog, which allows you to choose from a list of languages the source type for which to insert the tag file. See Creating Extension-Specific Tag Files below.

Creating Extension-Specific Tag Files

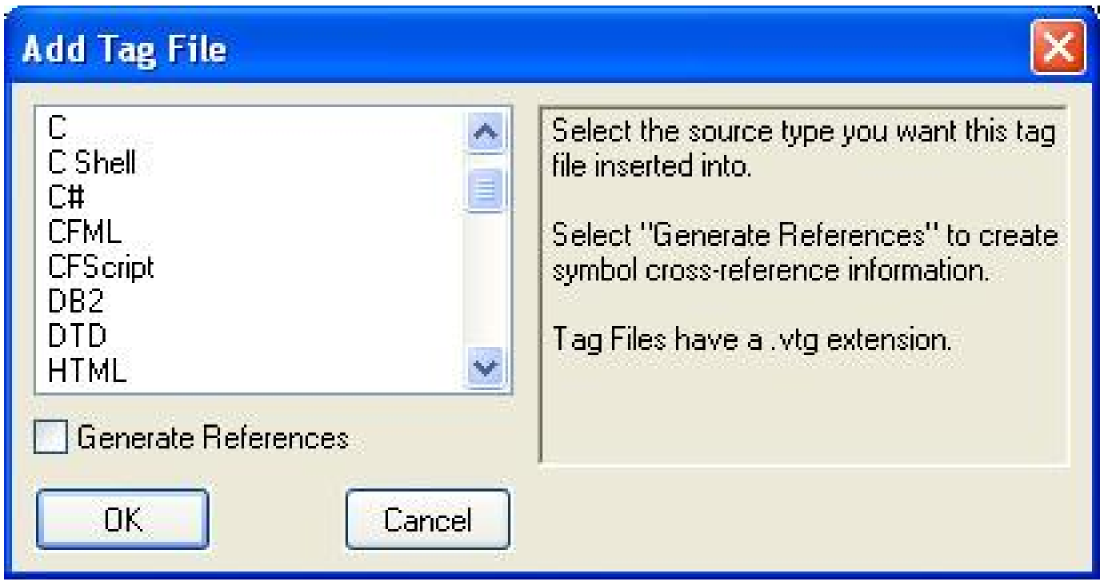
Extension-specific tag files provide the same symbolic information for libraries that is provided for code in your projects. A library is a pre-built unit of code that is not edited as part of this development effort. These tag files are accessible from any project written in the same language.

You need to create an extension-specific tag file if your project uses a compiler whose standard libraries are not tagged by the Create Tag Files for Run-Time Libraries dialog (see Creating Tag Files for Run-Time Libraries) or if you are using a third-party library. Additionally, you may have local libraries that are reused from project to project.

To create an extension-specific tag file, complete the following steps:

1. From the main menu, click **Tools** → **Tag Files**. The Context Tagging - Tag Files Dialog is displayed.
2. Click **Add Tag File** to open the Add Tag File dialog.

Figure 5.7. Add Tag File Dialog



Add Tag File

C
C Shell
C#
CFML
CFScript
DB2
DTD
HTML

Generate References

Select the source type you want this tag file inserted into.

Select "Generate References" to create symbol cross-reference information.

Tag Files have a .vtg extension.

3. Select the source type into which you want the tag file inserted. Select **Generate References** only if you want library functions to be shown when you list references.

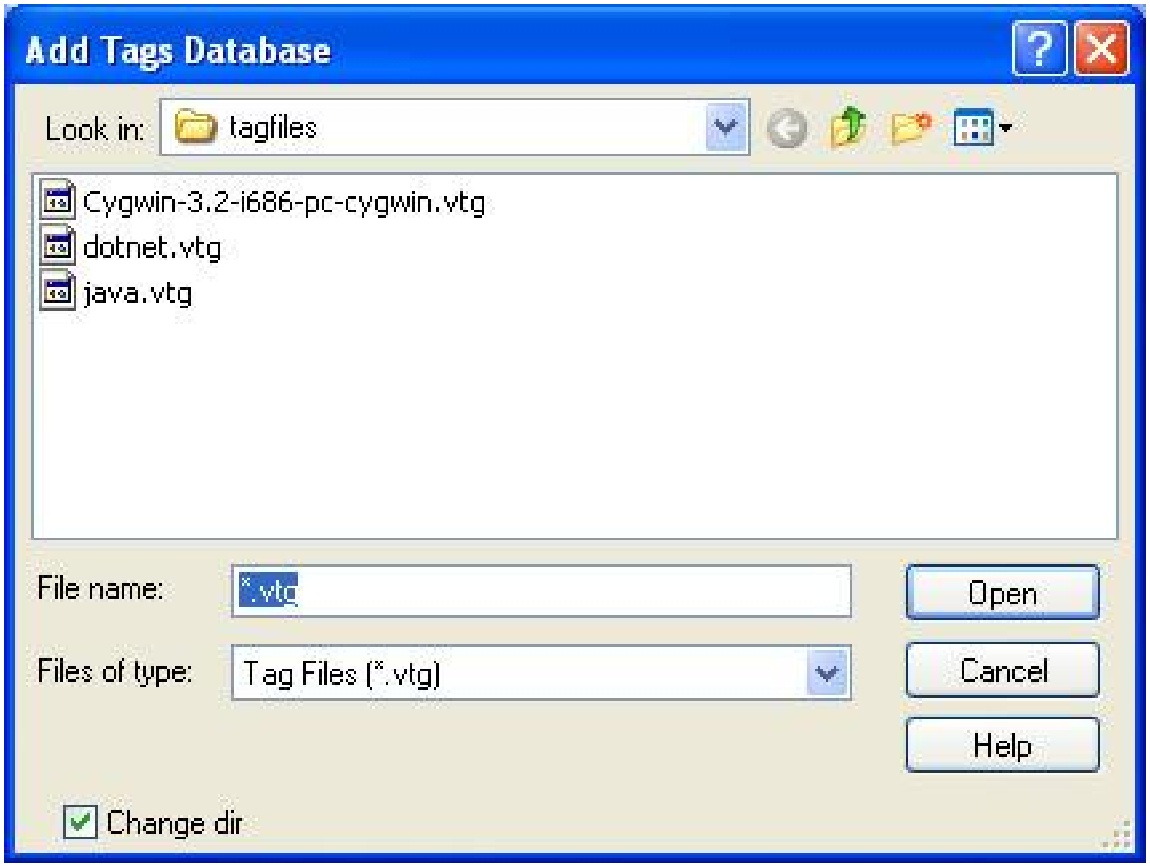
Note

Generate References creates an inverted file index so that you can quickly find which files contain which symbols. Workspace tag files create this index by default. This information is used to build a list of references (using the **push_ref** command, bound to **Ctrl**+**/** in the CUA emulation). In general, it's better to have the reference list contain functions that are part of this workspace and not in libraries. If **Generate References** is not checked, you will still be able to jump from a symbol to its definition in a library using **Ctrl**+**Dot** (**push_tag**).

This option is off by default since most programmers do not want to see library functions shown in the reference list.

4. Click **OK**. The Add Tags Database dialog opens.

Figure 5.8. Add Tags Database Dialog



5. Select an existing tag file or enter the name for the new tag file. Tag files have the extension `.vtg`.

6. Click **Open** to display the Add Tree dialog. Navigate to the root of the library source code and click the **OK** button.

7. The Building Tag File dialog opens showing the progress as the tag file is built. When finished, the contents are displayed in the Context Tagging® - Tag Files dialog.

See Managing Tag Files for more information.

Tagging Run-Time Libraries

Create extension-specific tag files for include files of compiler packages or utility libraries or both. This allows the Context Tagging® feature set to work for all symbols, not just those symbols in the project. Context Tagging needs all symbol information to work properly.

A tag file is automatically built for the run-time libraries of C#, InstallShield, JavaScript, Perl, PV-WAVE, Slick-C®, Tornado, TCL, and Visual Basic .NET, and usually it is not necessary to build tag files for the run-times of these languages. If you already built a tag file for run-times during installation, you can skip this section. If you are using Perl, Python, or TCL, and the compiler cannot be found in PATH (or registry for Windows), you need to build tag files for these run-time libraries.

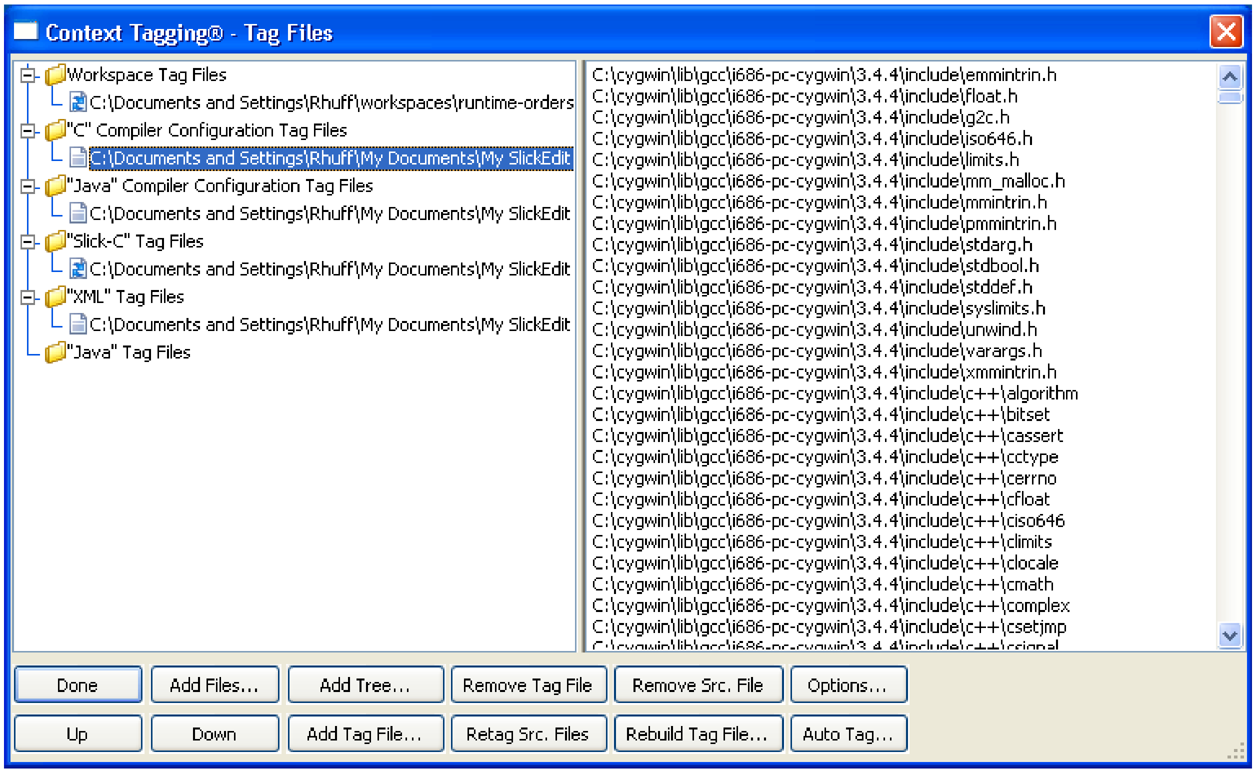
Configuring Context Tagging® for COBOL

All of the Context Tagging features for COBOL, except Parameter Information, are provided by scanning COBOL source file and the copy books that are included. This information is used by List Members, completions, tag-driven navigation, symbol preview, and in the Outline view. Parameter Information for COBOL commands and intrinsic functions are provided by the COBOL built-ins file created during product installation. To provide Parameter Information for subroutines, you must build a tag file that will hold linkage information from the subroutine's point of view.

Managing Tag Files

The Context Tagging - Tag Files Dialog (**Tools** → **Tag Files**) is used to manage your tag files.

Figure 5.9. Context Tagging® - Tag Files Dialog



```
Workspace Tag Files
  C:\Documents and Settings\Rhuff\workspaces\runtime-orders
"C" Compiler Configuration Tag Files
  C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Java" Compiler Configuration Tag Files
  C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Slick-C" Tag Files
  C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"XML" Tag Files
  C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Java" Tag Files
```

```
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\emmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\float.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\g2c.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\iso646.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\limits.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\mm_malloc.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\mmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\pmmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stdarg.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stdbool.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stddef.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\syslimits.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\unwind.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\varargs.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\xmmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\algorithm
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\bitset
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cassert
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cctype
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cerrno
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cfloat
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\ciso646
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\climits
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\clocale
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cmath
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\complex
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\csetjmp
```

The left pane of the dialog lists all of your tag files, separated into categories (see Tag File Categories below). A tag file having a **File** bitmap with blue arrows indicates the tag file is built with support for cross-referencing. The right pane of the dialog lists all the source files indexed by the currently selected tag file.

For information about the buttons available, see Context Tagging - Tag Files Dialog.

Tag File Categories

The Tag File categories, described below, are listed on the left side of the Context Tagging ® - Tag Files dialog (**Tools** → **Tag Files**).

- **Workspace Tag Files** - The tag files for the current active workspace. Each project in the workspace has a separate tag file. Visible only if a workspace is open.
- **Auto-Updated Tag Files** - These tag files are designed to be shared by multiple users of the editor on a network. You can use the **vsmktags** utility to rebuild these tag files as part of your nightly build process. When SlickEdit® Core detects that a newer version of an auto-updated tag file is available, it will automatically copy in the newer version and begin using it.
- **"C" Compiler Configuration Tag Files** - These tag files correspond to one of the C/C++ compiler configurations. These may be configured by using the C/C++ Compiler Properties dialog box (**Tools** → **C++ Refactoring** → **C/C++ Compiler Options**). See C/C++ Compiler Settings for more information.
- **"Java" Compiler Configuration Tag Files** - These tag files correspond to one of the Java compiler configurations. These may be configured by using the Java Compiler Properties dialog box (**Tools** → **Tag Files** → **Auto Tag** and click the **Browse** button beside the **Java Compiler** drop-down menu.

- **Other Extension-Specific Tag Categories** - The tag files listed under each of the other language-specific categories apply to that language only. Use these categories to add tag files for third-party libraries.

Tag File Search Order

When doing tag lookups, the tag files are searched in a specific order, which affects the tags found. The following are examples of the order in which tag files are searched.

Example: Java Tag File Search Order

If a Java source file is open, when a tagging-related operation is performed, the tag files are searched in the following order:

1. Workspace tag file, providing it contains other Java source files.
2. Auto-updated tag files containing other Java source files.
3. The "Java" Compiler Configuration tag file corresponding to the Java environment specified for your project.
4. Extension-specific Java tag files, in the order that they are listed in the Context Tagging - Tag Files Dialog.

Example: C/C++ Tag File Search Order

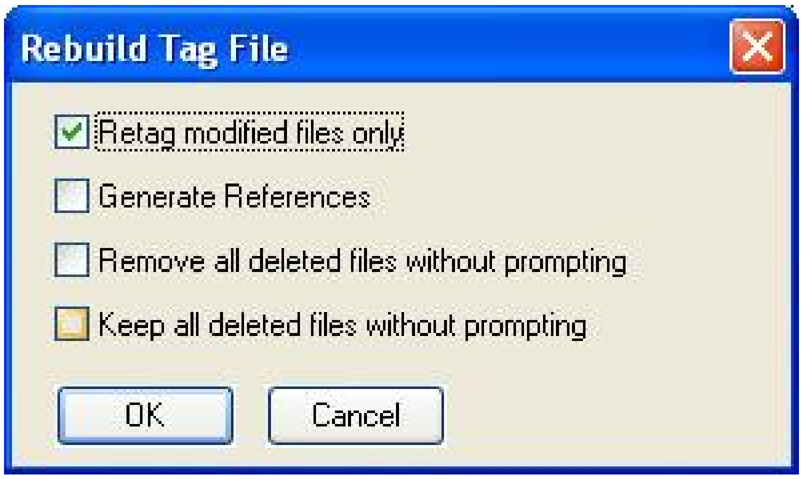
If a C/C++ source file is open, when a tagging-related operation is performed, the tag files are searched in the following order:

1. Workspace tag file, providing it contains other C/C++ source files.
2. Auto-updated tag files containing other C/C++ source files.
3. The "C" Compiler Configuration tag file corresponding to your default C compiler configuration as specified in your project (**C/C++ Refactoring** → **C/C++ Compiler Options**), or global default.
4. Extension-specific C tag files, in the order that they are listed in the Context Tagging - Tag Files Dialog. Note that if you have a "C" Compiler Configuration tag file, `cpp.vtg` will be excluded from this list.

Rebuilding Tag Files

The Rebuild Tag File dialog box contains options for rebuilding the selected file. To display the Rebuild Tag File dialog, click **Tools** → **Tag Files**. When the Context Tagging - Tag Files Dialog is displayed, select a file to rebuild, then click **Rebuild Tag File**.

Figure 5.10. Rebuild Tag File Dialog



[✓] Retag modified files only
[ ] Generate References
[ ] Remove all deleted files without prompting
[ ] Keep all deleted files without prompting

The following settings are available:

- **Retag modified files only** - If checked, SlickEdit® Core will incrementally rebuild the tag file, only retagging files that have been modified since the last time they were tagged. If not checked, SlickEdit Core will rebuild the entire tag file from scratch.
- **Generate References** - If checked, the tag file will be built with support for cross-referencing. Tag files with support for references are slightly larger and take slightly more time to build. They will also be included in all symbol references searches, which may not be necessary, especially for third-party libraries.
- **Remove all deleted files without prompting** - If checked and the tag file contains a source file which no longer exists on disk, the source file will be removed from the tag file without prompting for confirmation.
- **Keep all deleted files without prompting** - If checked and the tag file contains a source file which no longer exists on disk, the source file will not be removed from the tag file without prompting for confirmation.

Note

The options **Remove all deleted files without prompting** and **Keep all deleted files without prompting** are mutually exclusive—selecting one will deselect the other.

Context Tagging® Options

General Context Tagging® Options

The Context Tagging Options Dialog allows you to set general parameters for the Context Tagging feature set. Here, you designate how tagging is done, how the references function within the application, and you can also tune the application to maximize performance. To display this dialog, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Context Tagging Op-**

tions setting. See Context Tagging Options Dialog for descriptions of the options.

Tip

To improve tagging performance, you may need to adjust the **Tag file cache size** on the **Virtual Memory** tab of the General Options dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting). See Virtual Memory Tab for more information.

Extension-Specific Context Tagging® Options

Context Tagging options can be configured for each file extension type. This allows you to activate and deactivate particular features on a per-language basis. To set options, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Context Tagging®** tab, then from the **Extension** drop-down list, select the extension you wish to work with. Options are described in the section Context Tagging Tab.

Chapter 6. Editing Features

Navigation

There are two types of navigation in SlickEdit® Core: Code Navigation, which provides in-depth symbol navigation and structure matching, and Cursor Navigation, which pertains to more simple movements within text and files.

Code Navigation

Some of the most powerful features in SlickEdit® Core are its code navigation methods, particularly Symbol Navigation. These features allow you to navigate your code the way you think about it, rather than just as a set of files. If you aren't using the code navigation features in SlickEdit® Core, then you aren't getting the most out of the editor.

Symbol Navigation

Symbol Navigation allows you to jump from a symbol to its definition or to a reference with a single keystroke. A pushed bookmark is set, allowing you to return to the symbol with another keystroke. You can chain a series of these navigation operations together, creating a stack of locations. Then pop your way back to the starting location.

To navigate between symbols use the following operations:

- **Go to Definition** - To quickly move the cursor from a symbol to its definition, pushing a bookmark in the process, press **Ctrl**+**Dot**. Alternatively, click **Navigate** → **Go to Definition** or use the **push_tag** command.
- **Go to Reference** - To create a list of references and optionally jump to the first one, pushing a bookmark in the process, press **Ctrl**+**/**. Alternatively, click **Navigate** → **Go to Reference** or use the **push_ref** command.
- **Pop Bookmark** - To pop the bookmark and return to the previous location, press **Ctrl**+**Comma**. Alternatively, click **Search** → **Pop Bookmark** or use the **pop_bookmark** command. See Pushed Bookmarks for more information about working with bookmarks.

When you first call these operations, if a tag file does not exist for the current file, it will be built (see Building Tag Files).

Tip

- **Procs and prototypes** - In C and C++, navigating from a symbol to its definition will prompt you to select whether you want to go to the prototype or the function. You can tell SlickEdit® Core to always go to one or the other by setting one of the options **Go to Definition navigates to symbol definition (proc)** or **Go to Definition navigates to symbol declaration (proto)**. To set these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the extension you want to affect from the **Extension** drop-down list, then select the Context

Tagging Tab. When the cursor is in the prototype, pressing **Ctrl**+**Dot** will navigate to the function and vice versa. If you do not set one of these options, you will be prompted with the Select a Tag Dialog the first time you navigate from a symbol to its definition.

- **Auto-close visited files** - SlickEdit Core can automatically close a visited file, one that was opened through symbol navigation but not edited. Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab, then select the option **Automatically close visited files**.

Navigating Between Multiple Instances

If more than one instance of the definition or reference is found, the Select a Tag dialog is displayed, from which you can select the instance to navigate to. To go to the next occurrence, press **Ctrl**+**G** or use the **find_next** command. To go to the previous occurrence, press **Ctrl**+**Shift**+**G** or use the **find_prev** command.

Alternatively, press **Ctrl**+**Down** (**next_tag** command) or **Ctrl**+**Up** (**prev_tag** command) to place the cursor on the next or previous symbol definition.

Using the Find Symbol View

The Find Symbol view (**Search** → **Find Symbol**) is used to locate symbols (tags) which are declared or defined in your code. It allows you to search for symbols by name using either a regular expression, substring, or fast prefix match. See Find Symbol View for descriptions of the options that are available.

More Symbol Navigation Methods

There are several other methods for navigating to symbols:

- The Symbols View shows the symbols for all tag files. Right-click in the view window and select **Find Tag** to search for a specific symbol. You can also use the **cb_find** command to find the symbol under the cursor and display it in the Symbols view.
- At the SlickEdit® Core command line, use the **f** command and completion keys (**Space** and **?**) to enter a tag name. For example, if tagging the C run-time library, type **f str?** on the command line for a list of tag names starting with "str" (such as **strcpy**, **strcmp**, etc.).
- To navigate to a Slick-C® symbol, you can use the **fp** command (a shortcut for **find_proc**). If editing a Slick-C macro, then enter the **push_tag** command (**Ctrl**+**Dot**) to find the symbol at the cursor. The **push_tag** command actually calls the **find_proc** command with the symbol name at the cursor to perform the task.

Begin/End Structure Matching

Begin/End Structure Matching moves the cursor from the beginning of a code structure to the end, or vice versa. This works for languages using curly braces "{ }", "begin" and "end", or any other defined begin/end pairs.

To place the cursor on the opposite end of the structure when the cursor is on a begin or end keyword pair, press **Ctrl+]** (**find_matching_paren** command or from the menu click **Navigate** → **Go to Matching Parenthesis**). The **find_matching_paren** command supports matching parenthesis pairs { }, [ ] and ( ).

Tip

For Python, SlickEdit® Core supports the matching of the colon (:) token and the end of context. See Begin/End Structure Matching for Python for more information.

Viewing and Defining Begin/End Pairs

Use the Extension Options Dialog to view or define the begin/end pairs for any language. To access this dialog, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the extension you wish to work with from the **Extension** drop-down list, then select the Advanced Tab.

In the **Begin/end pairs** text field, specify the pairs in a format similar to a regular expression.

Note

This text box is unavailable for languages that have special begin/end matching built-in.

The examples below illustrate the syntax for defining the begin/end pairs. The begin and end pair matching option is case-sensitive by default. Append **;I** to ignore case.

Example 1

```
(begin),(case)|(end);|
```

The above begin/end pairs are for the Pascal language. The Pascal language requires a more sophisticated expression. This expression indicates the keywords **begin** or **case** start a block and the keyword **end** terminates the block. The **,** (comma) is used to specify multiple begins or multiple ends. The **|** operator is used to separate begins from ends.

Example 2

```
(#ifdef),(#ifndef),(#if)|(#endif)
```

The above pairs are for the C language. The C language has the added complication that **#if** is a substring of **#ifdef**. Due to the implementation of begin/end matching, **#ifdef** must appear before **#if**.

More settings for begin/end pairs can be found on the Formatting Options dialog specific to the extension you are working with. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. See the individual language sections in the chapter Chapter 7, *Language-Specific Editing* for more information about these options.

Setting the Paren Match Style

As you type a closing parenthesis, highlight and matching options are available. To specify these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, then select one of the **Paren match style** options.

The **Highlight** style option temporarily block-selects the text within the parenthesis pair. The **Cursor to Begin Pair** style option temporarily places the cursor on the matching begin parenthesis.

Select **Highlight matching blocks** to automatically highlight the corresponding parenthesis, brace, bracket, or begin/end word pairs under the cursor. To customize the highlighting color, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting. Select the **Block Matching** screen element. To adjust the delay in milliseconds before the highlighting is updated, go to **Macro** → **Set Macro Variable** and modify the variable **def_match_paren_idle**. See Setting Colors for Screen Elements and Setting Macro Variables for more information.

Cursor Navigation

These cursor navigation methods pertain to simple cursor movement within files. We recommend creating key bindings for commands that you use frequently (if a key binding doesn't already exist by default).

Navigating in Pages and Files

The following commands control cursor navigation in pages and files:

- **top_of_window/bottom_of_window** (**Ctrl**+**PgUp**/**Ctrl**+**PgDn**) - Places the cursor at the top/bottom of the current editor window.

- **top_of_buffer**/**bottom_of_buffer** (**Ctrl**+**Home**/**Ctrl**+**End**) - The **top_of_buffer** command places the cursor at the first line and first column of the current buffer. The **bottom_of_buffer** command places the cursor at the end of the last line of the current buffer. If the option **Preserve column on top/bottom** is on (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **General** setting and select the More Tab), the cursor is placed at the first line/last line of the buffer and the column position is unchanged.

Tip

There is an option to make **top_of_buffer/bottom_of_buffer** push a bookmark, providing quick navigation between the top/bottom of the buffer and the previous location. See Setting Bookmark Options for more information.

- **top_left_of_window/bottom_left_of_window** - Places the cursor at the top left/bottom right of the current editor window.

- **page_up**/**page_down** (**PgUp**/**PgDn**) - Moves the cursor to the previous/next page of text.

- **page_left**/**page_right** - Changes the left edge scroll position by half the window width to the left/right.

The cursor is moved half the window width to the left/right as well.

Navigating in Statements and Tags

The following navigation commands are available for languages that support statement tagging:

- **next_tag**/**prev_tag** - Places the cursor on the next/previous tag definition, skipping any tags filtered out by the Outline view.
- **next_proc**/**prev_proc** - Places the cursor on the next/previous function heading.
- **find_tag** - Displays a list of tags in the Select a Tag dialog, allowing you to pick the tag to which you want to navigate.
- **goto_tag** - Prompts for a procedure tag name and places the cursor on the definition of the procedure name specified. This command is available in GNU Emacs emulation mode only.
- **end_tag** - Places the cursor at the end of the current symbol definition. This is useful if you are in the middle of a large function or class definition and you want to jump to the end of it. In a class definition in C++, the end is where inline function definitions are usually stored.
- **end_proc** - Moves the cursor to the end of the current procedure.
- **next_statement**/**prev_statement** - Moves the cursor to the beginning of the next/previous statement.
- **begin_statement**/**end_statement** - Places the cursor at the beginning/end of the current statement.
- **next_sibling**/**prev_sibling** - Moves the cursor to the beginning of the next/previous sibling. These are similar to the **next_statement**/**prev_statement** commands except they stay at one level of nesting.
- **goto_parent** - Moves the cursor to the beginning of the enclosing statement or symbol scope relative to the current cursor position.
- **begin_statement_block**/**end_statement_block** - Moves the cursor to the beginning/end of the current statement block.

Navigating Between Words

To navigate between words, use the **next_word** (**Ctrl**+**Right**) and **prev_word** (**Ctrl**+**Left**) commands. The **next_word** command moves the cursor to the beginning of the next word. The **prev_word** command moves the cursor to the beginning of the previous word.

You can specify whether the cursor moves to the beginning or the end of the next/previous word. Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. Set the **Next word style** to **Begin** or **End**. This affects both **next_word** and **prev_word** commands.

Navigating to a Specific Line

To view and place the cursor on a specific line number, from the main menu, click **Search** → **Go to Line**. Enter the line number and click **OK**. Alternatively, you can use the **goto_line** command in the syntax

goto_line <linenumber>.

Navigating to an Offset

To seek to a byte offset in the current buffer, from the main menu click **Navigate** → **Go to Offset**, or use the **gui_seek** command. This function is the same as the C **lseek** function. However, if you have opened the file with tab expansion, the seek position on disk may be different.

When the Seek dialog appears, enter the position to seek for. You may specify a C syntax expression. In addition, you may prefix the expression with a plus or minus sign (+ or -) to specify a relative seek position.

Some examples are:

- **0x10+10** - Seek to offset 26
- **+8+4** - Seek to current offset + 12
- **-8+4** - Seek to current offset - 12

Select the **Decimal** option to enter the seek position in decimal number format. Select the **Hex** option to enter the seek position in hexadecimal number format. You can type an "x" as the first character in the **Position to seek for** text box and this option will automatically be selected.

Symbol Browsing

SlickEdit® Core gives you the ability to browse and view symbols in your files or workspaces. Symbol browsing relies on Context Tagging®, so symbols are updated immediately or in the background as you edit. There are several views that display information as you work to help you find what you need at exactly the time you need it:

- Class View
- Outline View
- Find Symbol View
- Preview View
- References View
- Symbols View
- Symbol Properties View

See also Symbol Navigation for information about how to navigate between symbols in files.

Class View

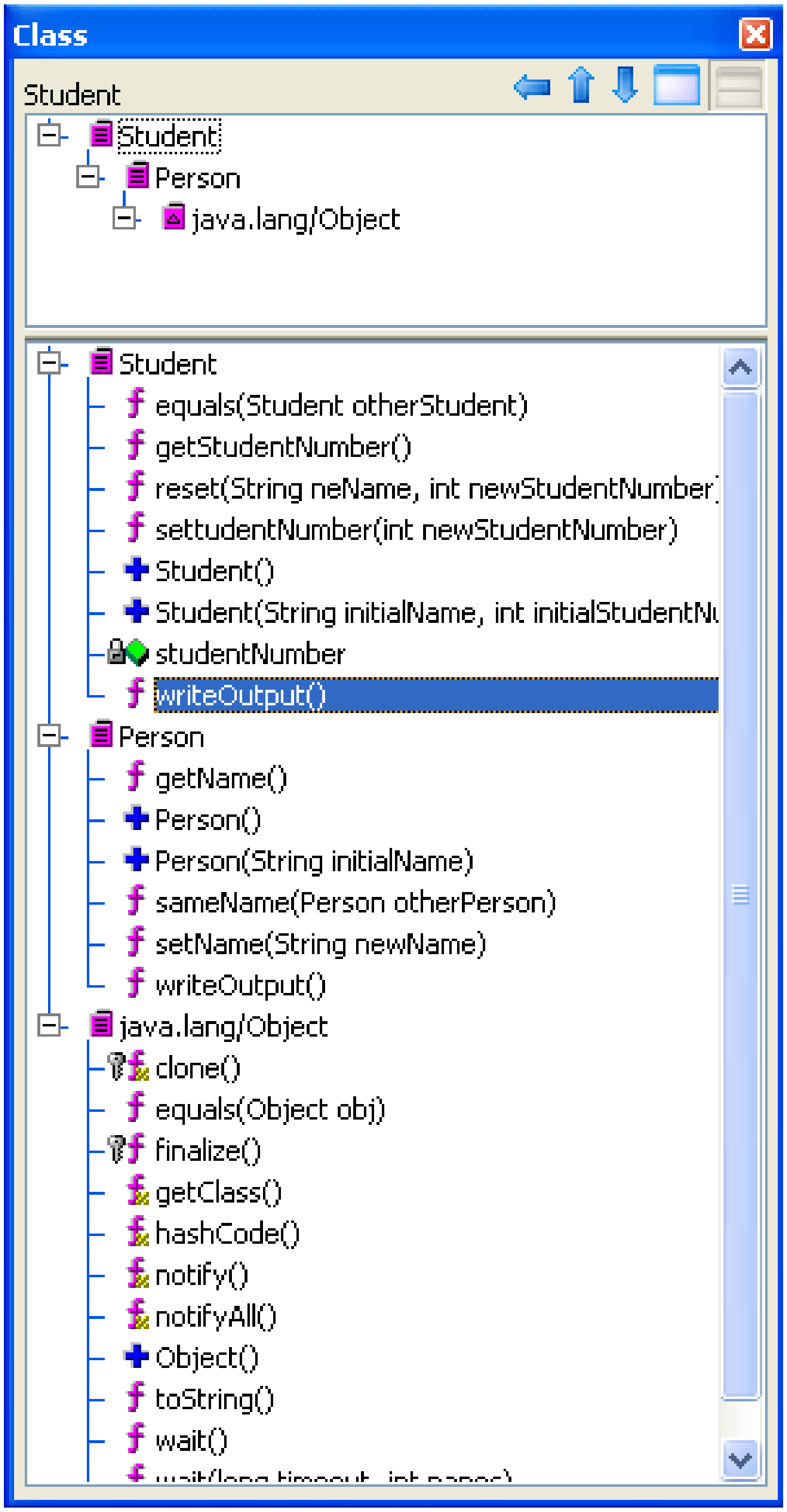
Note

The Class view is new in SlickEdit® Core v3.3, and not to be confused with the view named "Classes" in previous versions. The formerly named "Classes view" has been renamed to "Symbols view".

The Class view provides an outline view of both the members of the current class as well as any visible inherited members. This view also shows the inheritance hierarchy of the current class. This is useful for object-oriented programming languages such as Java.

To open the Class view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **Class**.

Figure 6.1. Class View



```
Student
  Person
    java.lang/Object

Student
  equals(Student otherStudent)
  getStudentNumber()
  reset(String neName, int newStudentNumber
  settudentNumber(int newStudentNumber)
  Student()
  Student(String initialName, int initialStudentNu
  studentNumber
  writeOutput()
Person
  getName()
  Person()
  Person(String initialName)
  sameName(Person otherPerson)
  setName(String newName)
  writeOutput()
java.lang/Object
  clone()
  equals(Object obj)
  finalize()
  getClass()
  hashCode()
  notify()
  notifyAll()
  Object()
  toString()
  wait()
```

If you are coding within a class, the top pane (hierarchy pane) of the view window shows the base class hierarchy for the current class. The bottom pane (members pane) shows all members of the current class, as well as all members visible from inherited superclass(es) and implemented interface(s). The name of the current class is displayed at the top of the view window.

If you are not currently in a class (or enum or interface), the hierarchy pane is blank and the members pane shows the symbols in the current file. The name of the current file is displayed at the top of the view window.

Hover the mouse over the bitmap of any item in the hierarchy or members panes to see a tooltip that shows the symbol's signature and scope.

To show or hide the hierarchy pane, use the two buttons located at the top-right of the view window. If the hierarchy pane is hidden, the members pane is resized to take up the entire space of the window. Use the size bar to resize either pane.

Use the **Up**/**Down** buttons located to the left of the pane buttons to navigate up or down the class hierarchy. The **Up** arrow button will allow you to navigate to a child class (derived class or subclass) of the current class. The **Down** arrow allows you to navigate to a parent class (superclass or interface) of the current class. When using these buttons to navigate through code, the active buffer will switch to the destination class, and the hierarchy and members panes will update.

To jump to the definition of a class in the code, pushing a bookmark in the process, double-click on any member or class. Left-click or press **Ctrl**+**Comma** to go back.

Filtering in the Hierarchy Pane

Right-click on a class in the hierarchy pane to display a list of filtering options. You can exclude entire namespaces or packages, anything above a certain level in the hierarchy, and anything outside of the current workspace. You can always include any class(es) you have excluded via the "Include" options.

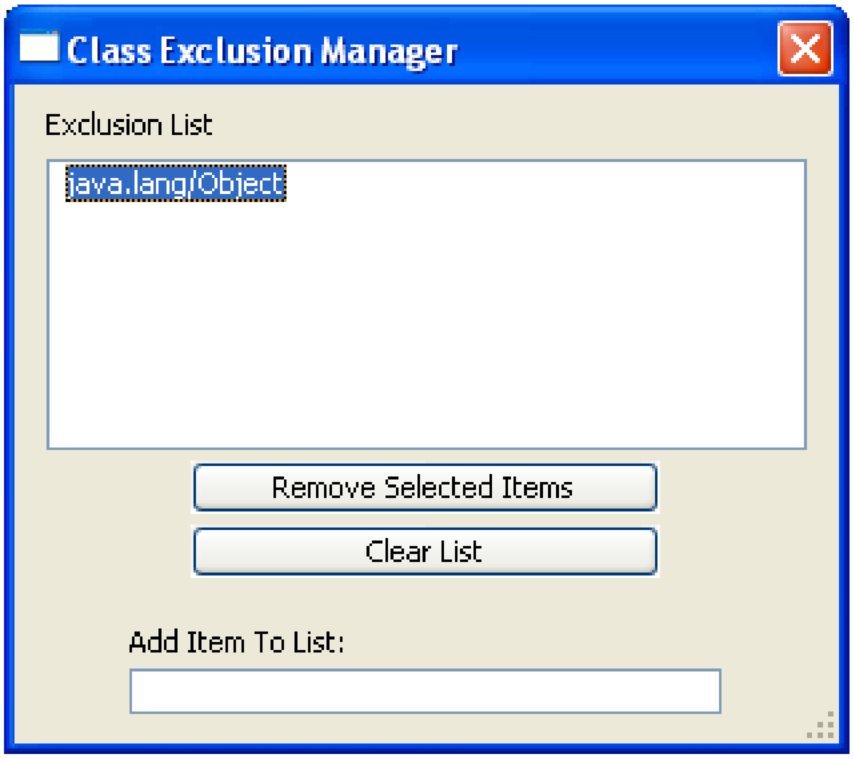
By excluding a class or interface in the hierarchy view, the members of this class or interface are no longer displayed in the members pane, but they are still visible in the hierarchy as gray text.

Select **Show in Symbol Browser** to jump to the class in the symbol browser.

Class Exclusion Manager

The Class Exclusion Manager, accessed by right-clicking on a class in the hierarchy pane, displays a list of any currently excluded classes, interfaces, namespaces, and packages. Exclusions are kept on a per-workspace basis.

Figure 6.2. Class Exclusion Manager Dialog



To add an item to the list, type the name in the **Add Item To List** text box, then press **Enter**. Click the buttons to remove selected items or to clear the list.

Filtering and Sorting in the Members Pane

Right-click on a member in the members pane to access a list of filtering and sorting options as well as options for code navigation and modification. The following options are available:

- **C++ Refactoring** - Displays a menu of C/C++ refactoring options. See C++ Refactoring for more information.
- **Quick Refactoring** - Offers two Quick Refactorings: Rename and Modify Parameter List. See Quick Refactoring for more information.
- **Add Member Function**, **Add Member Variable**, and **Add Virtual Function** - (C/C++ only) When these options are selected for a class, you are prompted with a dialog to type a member function, member variable, or virtual function to be added into the source code at the top of the current class.
- **Organize imports** - (Java only) Organizes import statements in Java files. See Organizing Java Imports for more information.
- **Go to Tag** - Moves the cursor to the selected tag. See Symbol Navigation for more information.
- **References** - Brings the References view into focus, displaying the references for the symbol. See References View for more information.
- **Set Breakpoint** - Sets a debugging breakpoint. See Setting Breakpoints for more information.

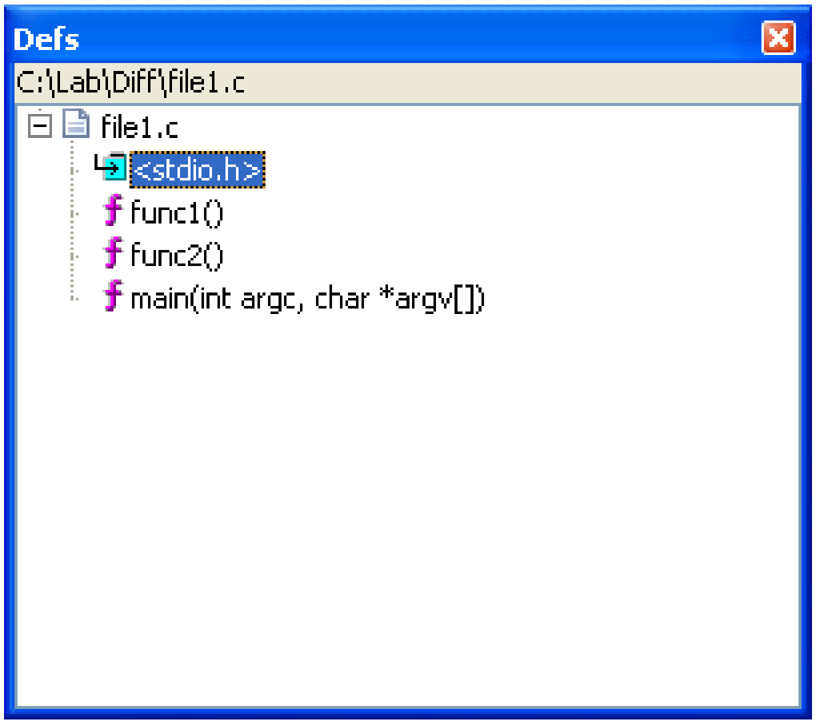
- **Show in Symbol Browser** - Jumps to the member in the symbol browser. See Symbols View for more information.
- **Increase/Decrease Listed Members Limit** - Controls the number of members displayed in the members pane. When this option is selected, the command line will prompt you for a variable value. The default is 400.
- **Sort Classes By Hierarchy** and **Sort Classes By Name** - These options toggle the display of classes sorted either by hierarchy or alphabetically by name.
- **Sort Members By Line Number** and **Sort Members By Name** - These options toggle the display of members sorted either by line number or alphabetically by name.
- **Organize Members By Class** - Groups the members in the members pane by their class (or interface). When this option is selected, all "Sort" options are available. When this option is not selected, visible members in this pane will not be grouped at all. They will instead be displayed in one list, sorted by name.
- **Auto Expand All Top Level Classes** - Expands all top level class nodes in the members pane whenever the current class changes. The default behavior is to only auto-expand the node of the current class.
- **Auto Expand All Structs/Enums/Inner Classes** - Expands all struct, enum, and inner class nodes displayed in the members pane whenever the content is refreshed. By default this option is turned off, and these nodes are collapsed.
- **Quick Filters** and **Scope Filters** - Quick filters allow you to display only certain items in the members pane, such as functions, prototypes, etc. Scope filters allow you to display members only in certain scopes, such as public or global, private, protected, etc.

Outline View

The Outline view provides an outline of symbols in the current file.

To open the Outline view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **Outline**.

Figure 6.3. Outline View



C:\Lab\Diff\file1.c

```
file1.c
    <stdio.h>
    func1()
    func2()
    main(int argc, char *argv[])
```

The name of the file is displayed at the top of the view window. Hover the mouse over the bitmap of any symbol in the window to see a tooltip that shows the symbol's signature and scope.

To jump to the definition of the symbol in the code, pushing a bookmark in the process, double-click on any symbol. Press **Ctrl**+**Comma** to go back.

Outline View Options

Right-click on any symbol in the Outline view to access the following options:

- **C++ Refactoring** - Displays a menu of C/C++ refactoring options. See C++ Refactoring for more information.
- **Quick Refactoring** - Offers two Quick Refactorings: Rename and Modify Parameter List. See Quick Refactoring for more information.
- **Set Breakpoint** - Sets a debugging breakpoint. See Setting Breakpoints for more information.
- **Sort by Function Name** and **Sort by Line Number** - These options toggle the display of symbols sorted either alphabetically by function name or by line number.
- **Show Hierarchy** - Organizes symbols by their scope within the current file. Deselect this option to display all of the symbols in one flat list.
- **Show Statements** - (C/C++, Java, Visual Basic only) This option controls the Statement Level Tagging feature. When selected, the view shows an outline of all statements in each function within the current file. This allows you to see a primitive function flowchart or to navigate to a specific statement within a function.

- **Display Files** - (Disabled in SlickEdit Core) Displays the names of the files that are open in the editor. Deselect this option to only show symbols in the current file, allowing you to use the window as a true outline view.
- **Auto Expand** - Automatically expands all levels within the current file. If this option is deselected, you will need to click to expand items manually.
- **Expand All** - Expands all symbols or levels in the current file.
- **Expand 1 Level** - Expands everything one level below the current symbol.
- **Expand 2 Levels** - Expands everything two levels below the current symbol.
- **Display Non-taggable Files** - (Disabled in SlickEdit Core) Displays files that are open in the editor that are not taggable, such as text files.
- **Properties** - Displays the Symbol Properties View, showing the properties of the selected item, such as visibility, whether it's static or final, etc. Note that you cannot use this window to change the properties.
- **Arguments** - Displays the return type and arguments for functions/methods in the Symbol Properties View.
- **References** - Displays the list of references for the selected symbol, just as if you pressed **Ctrl**+**/** in the editor window. See Symbol Navigation for more information.
- **Show Call Tree** - Displays a tree of symbols used by the selected symbol, for example, other functions called by the current function. See Viewing Symbol Uses with the Calling Tree for more information.
- **Contents** - Displays the following menu of save and print operations for the Outline view tree:
  - **Save** - Writes the items displayed in the Outline view to a text file, prompting you for a file name and directory location. The text file will then be displayed in the editor.
  - **Print** - Displays the Print dialog, where you can configure options for printing the tree.
  - **Save Subtree** and **Print Subtree** - These options function similarly to the above except they apply to the selected subtree.
- **Quick filters**, **Scope**, **Functions**, **Variables**, **Data Types**, **Statements**, and **Others** - All of these items are for filtering the data displayed in the Outline view.

Find Symbol View

The Find Symbol view is used to locate symbols in your code. It allows you to search for symbols by name using either a regular expression, substring, or fast prefix match. To open this view, click **Search** → **Find Symbol**.

Searching for a symbol is faster than a normal text search because it is executed against the Context Tagging® database, rather than searching through your source files. Find Symbol also avoids false hits in comments or string literals. Though Syntax-Driven Searching in the regular Find and Replace View provides this same capability, it cannot match the speed of Find Symbol.

See Find Symbol View for information about the options that are available on this view window.

Preview View

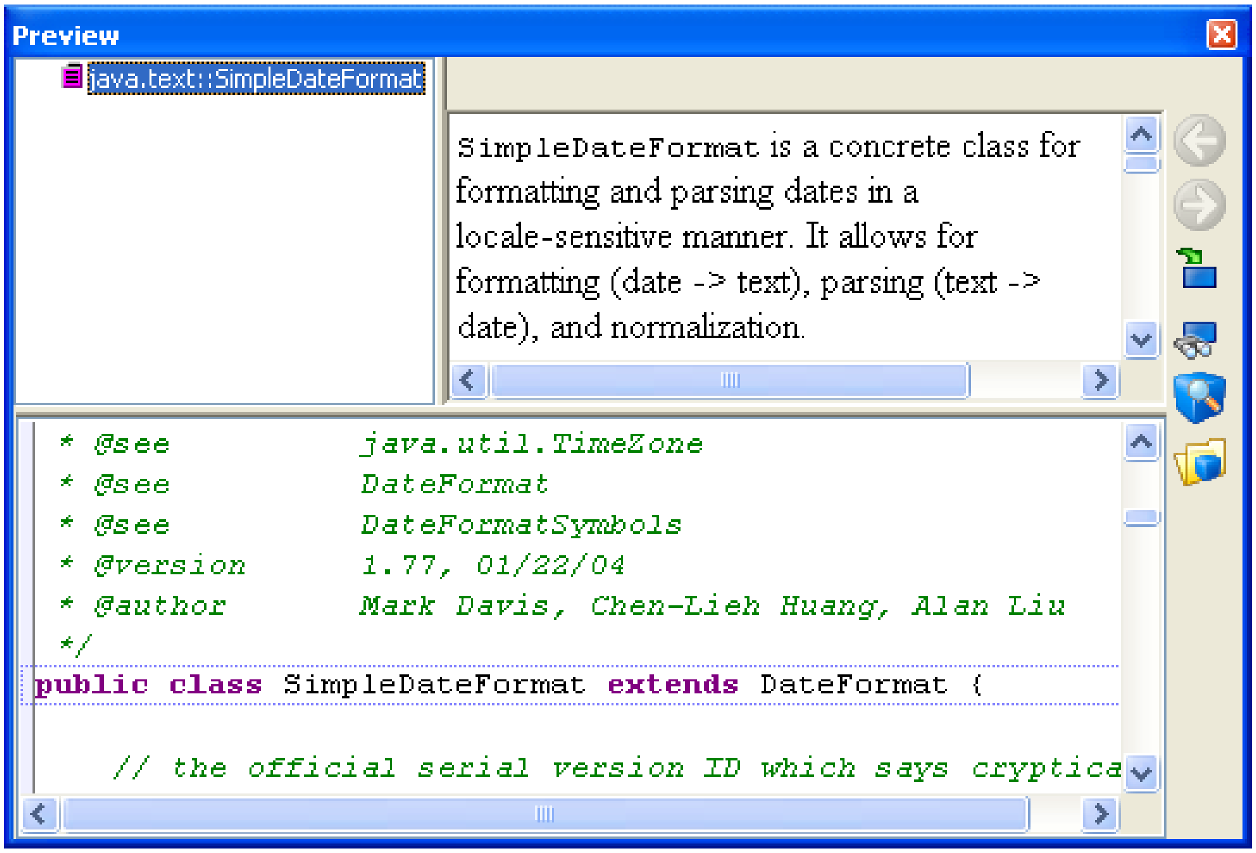
Note

In SlickEdit® Core v3.3, the Preview view replaces the Symbol view found in previous versions. The Preview view does not have a search capability, so you should use the new Find Symbol View to search for symbols. This provides you with more power and more control over your symbol searching.

The Preview view provides a portal for viewing information in other files without having to open them in the editor. It automatically shows this information when you are working with certain features. See Information Displayed by the Preview View for more information.

To open the Preview view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **Preview**.

Figure 6.4. Preview View



SimpleDateFormat is a concrete class for formatting and parsing dates in a locale-sensitive manner. It allows for formatting (date -> text), parsing (text -> date), and normalization.

```
 * @see          java.util.TimeZone
 * @see          DateFormat
 * @see          DateFormatSymbols
 * @version      1.77, 01/22/04
 * @author       Mark Davis, Chen-Lieh Huang, Alan Liu
 */
public class SimpleDateFormat extends DateFormat {

    // the official serial version ID which says cryptica
```

The Preview view contains the following components:

- **Symbol list** - This is the list of all symbols which are currently being previewed. In most cases, this is a single symbol. In some cases, such as for the symbol under the cursor, multiple matches are shown, such as the definition and declaration of a symbol. You can do a few things with the symbol list:
    - Hover the mouse over the bitmap of any item to see a tooltip that shows the symbol's signature and scope.
    - Click on any symbol to preview that specific symbol or it's comments.
    - Right-click to adjust symbol search filtering options.
    - Double-click to jump to a symbol. Press **Ctrl**+**Comma** to go back.
    - You can create key bindings for the **preview_next** and/or **preview_prev** commands in order to scroll through the items in the symbol list without using your mouse. See Creating Bindings for more information.
- **File and line label** - Shows the file name and line number of the selected symbol.
- **Documentation comments pane** - This pane displays any existing comments for the symbol that is selected in the symbol list. If the comments are in Javadoc or XMLdoc format, they will be formatted in HTML. You can single-click on hypertext links within the comments to follow the links, such as "See also" sections.
- **Editor preview window** - Shows the contents of the actual source file at the line number of the selected symbol. Double-click to open the code in the editor. Right-click to adjust symbol search filtering options.
- **Size bars** - Use the size bars to adjust the width of the symbol list and/or the height of the documentation comments area.
- **Buttons** - The following buttons are found along the right edge of the Preview view window:
    - **Back** and **Forward** - Allow you to navigate among the hypertext links that you have traversed in the documentation comments.
    - **Go to definition** - Opens the selected symbol in the editor.
    - **Go to reference** - Finds references to the selected symbol.
    - **Show in symbol browser** - Locates the selected symbol in the Symbols View (formerly known as the Classes view).
    - **Manage Tag Files** - Opens the Context Tagging - Tag Files Dialog for building and maintaining tag files for indexing symbol information.

Information Displayed by the Preview View

The table below describes what the Preview view displays under different circumstances.

Table 6.1. Preview View Information

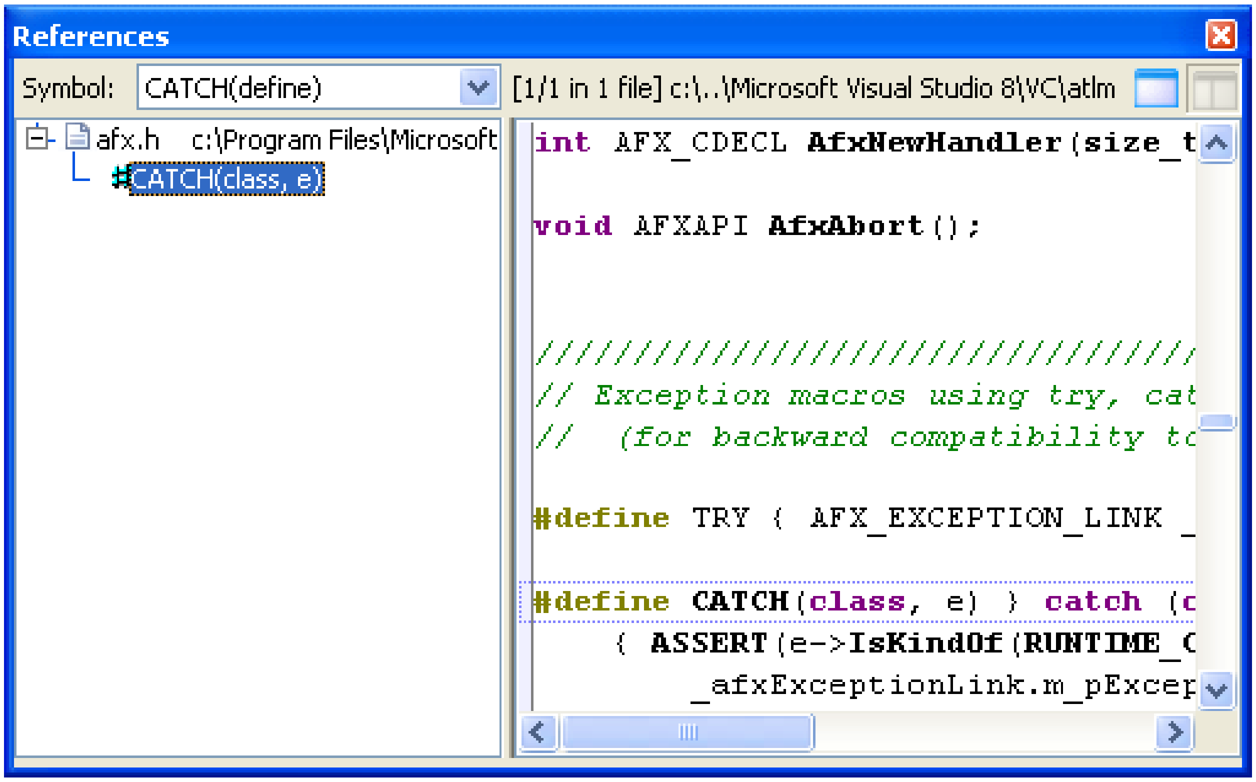
Editor Element in Use	Preview View Display
Any source file open in the editor	The Preview view shows the definition or declaration of the symbol under the cursor, along with the symbol’s documentation comments, if any exist.
The Outline, Symbols, Class, and Find Symbol views	Single-click on a symbol and the Preview view displays the selected symbol and its documentation comments, if any exist. See Outline View, Symbols View, Class View, and Find Symbol View for more information.
Call Tree dialog and References view	The Preview view shows the location of the symbol references or use.
The Base Classes and Derived Classes symbol browser dialogs	Single-click on a symbol and the Preview view displays the selected symbol and its documentation comments, if any exist. See Symbols View for more information.
The SlickEdit Core Search view	Single-click on a line in the SlickEdit Core Search view and the Preview view displays the location of the selected search result. See Search Results Output for more information.
List Members and Auto-Complete results	Cursor up or down through the list of items in auto-complete or list-members results and the Preview view displays the location of the selected symbol and its documentation comments, if any exist. See List Members and Auto-Complete for more information.

References View

The References view displays the list of symbol references (uses) found the last time that you used the Go to Reference feature (**Ctrl**+**/** or **push_ref** command—see Symbol Navigation for more information).

To open the References view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **References**.

Figure 6.5. References View


References
Symbol: CATCH(define)
[1/1 in 1 file] c:\..\Microsoft Visual Studio 8\VC\atlm
afx.h c:\Program Files\Microsoft
#CATCH(class, e)

```
int AFX_CDECL AfxNewHandler(size_t

void AFXAPI AfxAbort();



/////////////////////////////////////
// Exception macros using try, cat
//   (for backward compatibility to

#define TRY { AFX_EXCEPTION_LINK _

#define CATCH(class, e) } catch (c
    { ASSERT(e->IsKindOf(RUNTIME_C
        _afxExceptionLink.m_pExcep
```

The References view automatically comes into focus when you use the Go to Reference feature or when you select **References** from the right-click menu of the Class, Outline, or Symbols view windows.

Note

Typically, you only want to view references that occur in project files, and not run-time libraries, which can be very large. For this reason, references are not generated automatically for run-time library tag files. If you want to view references that occur in a run-time library tag file, you need to generate references for the tag file. To do this, display the Context Tagging - Tag Files Dialog (**Tools** → **Tag Files** or **gui_make_tags** command), choose the tag file, right-click to display the context menu, and select **Generate References**. See Tagging Run-Time Libraries for more information.

The left pane displays a tree view of the files and locations that contain the symbol references. Hover the mouse over the bitmap of a symbol to see a tooltip that shows the symbol's signature and scope. To jump to the location of a symbol reference in the code, pushing a bookmark in the process, double-click on it. Press **Ctrl**+**Comma** to go back.

The right pane displays a preview of that location in the source. The number of instances found and the file name and line number are displayed at the top. Use the size bar to resize either pane.

Use the buttons located at the top right corner of the view window to toggle the preview pane on and off. Because source can also be previewed in the Preview View, you may find it more efficient to use the References view with the preview pane off.

References View Options

Right-click on a symbol or file in the left pane of the References view to display the following options:

- **Contents -** Displays the following menu of save and print operations for the references browser tree:
  - **Save** - Writes the items displayed in the references browser to a text file, prompting you for a file name and directory location. The text file will then be displayed in the editor.
  - **Print** - Displays the Print dialog, where you can configure options for printing the tree.
  - **Save Subtree** and **Print Subtree -** These options function similarly to the above except they apply to the selected subtree.
- **Quick filters**, **Scope**, **Functions**, **Variables**, **Data Types**, **Statements**, and **Others** - All of these items are for filtering the data displayed in the References view.

Symbols View

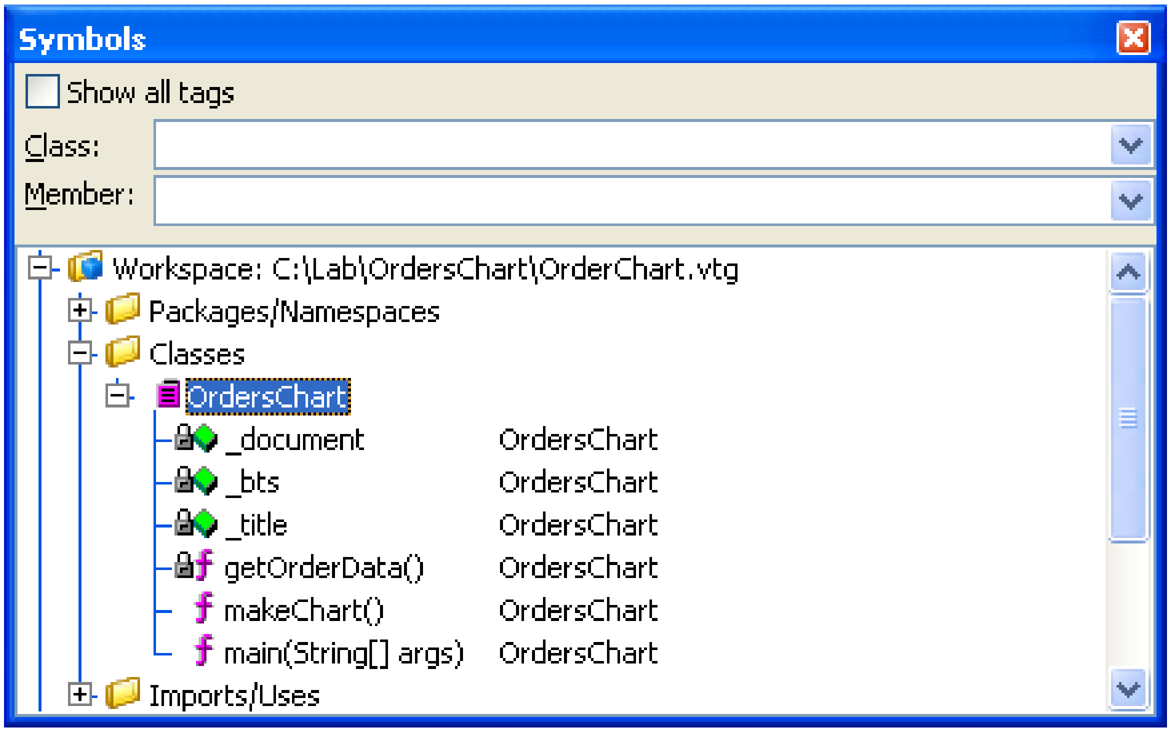
Note

In SlickEdit® Core v3.3, the Symbols view replaces the Classes view found in previous versions. A new Class View is available.

The Symbols view contains the symbol browser, which lists symbols from all of the tag files.

To open the Symbols view, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **Symbols**.

Figure 6.6. Symbols View



```
Workspace: C:\Lab\OrdersChart\OrderChart.vtg
    Packages/Namespaces
    Classes
        OrdersChart
            _document           OrdersChart
            _bts                OrdersChart
            _title              OrdersChart
            getOrderData()      OrdersChart
            makeChart()         OrdersChart
            main(String[] args) OrdersChart
    Imports/Uses
```

The top part of the view window contains an option and combo boxes that are used for filtering. The bottom part of the window lists the symbols grouped by category. Symbols in your workspace are listed in the top group labeled "Workspace." The rest of the symbols are grouped by language or compiler.

Hover the mouse over the bitmap of a symbol to see a tooltip that shows the symbol's signature and scope. To jump to the definition of a symbol in the code, pushing a bookmark in the process, double-click on any symbol. Press **Ctrl**+**Comma** to go back.

Filtering Symbols in the Symbols View

The symbols listed in the symbol browser can be filtered using the **Class** and **Member** combo boxes. The **Class** combo box filters the items listed under the Classes folder. The **Member** combo box filters the items listed under any displayed classes or under any of the other folders, like Global Variables, Static Variables, Defines, etc. Enter multiple words in either combo box to search for items containing either word.

For example:

- Enter **person** into the **Class** combo box to find all classes containing the word "person".
- Enter **person manager** into the **Member** combo box to find all members, variables, etc. containing the word "person" or "manager".

Note

- The filters are case-sensitive, so be sure to type the values in the same case.

- The items listed under the Classes folder are global classes that are not part of a namespace or package.

To clear the filters and see all items again, select the **Show all tags** option.

For non-object-oriented languages, use the **Member** combo box to search, since there are no classes. You can hide the combo boxes to save space by right-clicking and selecting **Filters**, then unchecking the corresponding check box.

Symbols View Options

Right-click on a symbol in the Symbols view to access the following additional filtering options as well as code management options:

- **Go to Definition** - Moves the cursor to the symbol's definition (proc). See Symbol Navigation for more information.
- **Go to Declaration** - Moves the cursor to the symbol's declaration (proto). See Symbol Navigation for more information.
- **Quick Refactoring** - Offers two Quick Refactorings: Rename and Modify Parameter List. See Quick Refactoring for more information.
- **Organize imports** - (Java only) Organizes import statements in Java files. See Organizing Java Imports for more information.
- **Set Breakpoint** - Sets a debugging breakpoint. See Setting Breakpoints for more information.
- **Find Tag** - Searches for symbols and displays them in the symbol browser. Note that the Find Symbol view also provides this functionality.
- **Manage Tag Files** - Displays the Context Tagging - Tag Files Dialog for use in managing your tag files.
- **Expand** and **Collapse** options - Expands/collapses symbols as specified.
- **Sort by** - Sorts symbols displayed by tag name, line number, or containers to top, which puts classes, structs, etc. at the top of the list.
- **Filters** - Filter by class or member, or select **Filtering Options** to display the Symbol Browser Filter Options dialog. See Symbol Browser Filter Options for information on the available options.
- **Contents -** Displays the following menu of save and print operations for the symbol browser tree:
  - **Save** - Writes the items displayed in the symbol browser to a text file, prompting you for a file name and directory location. The text file will then be displayed in the editor.
  - **Print** - Displays the Print dialog, where you can configure options for printing the tree.
  - **Save Subtree** and **Print Subtree** - These options function similarly to the above except they apply to the selected subtree.

- **Base Classes** - Displays the Base Classes dialog, which shows a list of base classes for the selected class on the left with the list of that class's members on the right. Base classes are displayed in a tree view, allowing you to explore up the inheritance hierarchy. See Viewing Base and Derived Classes for more information. Note that the Class View provides this same functionality.
- **Derived Classes** - Displays the Derived Classes dialog, which works the same as above but for derived classes. See Viewing Base and Derived Classes for more information.
- **Properties** - Displays the Symbol Properties View, showing the properties of the selected item, such as visibility, whether it's static or final, etc. Note that this window is read-only, so you can't use it to change the properties.
- **Arguments** - Displays the return type and arguments for functions/methods in the Symbol Properties View.
- **References** - Displays the list of references for the selected symbol in the References View, just as if you pressed **Ctrl**+**/** in the editor window. See Symbol Navigation for more information.
- **Calls/Uses** - Displays a tree of symbols that are used by this symbol or called by this function. See Viewing Symbol Uses with the Calling Tree for more information.

Viewing Symbol Uses with the Calling Tree

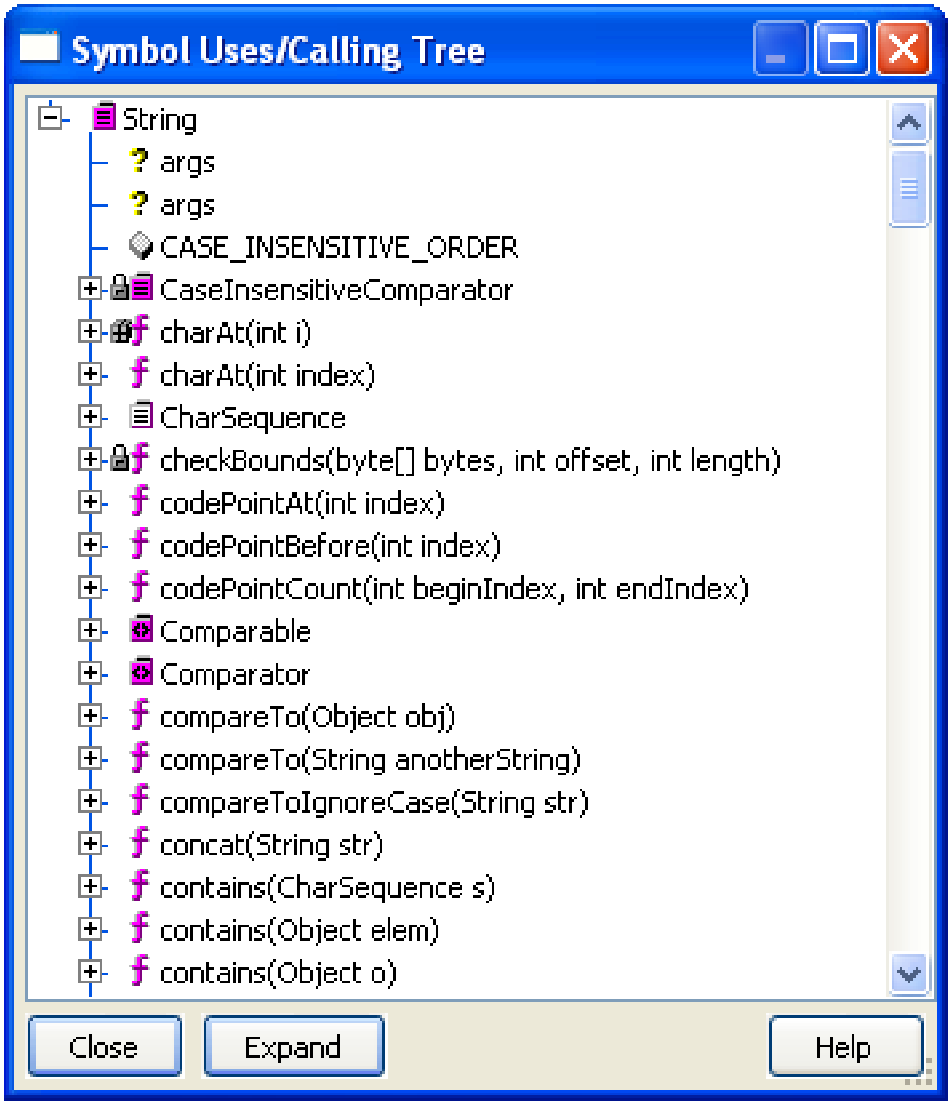
View symbol uses to see what symbols (variables, functions, methods, classes, etc.) are used by a specific function or method.

To view the symbols that a particular function or method uses, first create a project or open an existing project. Then from the Symbols view, right-click on the desired function or method and select **Calls or uses**. The Symbol Uses/Calling Tree dialog will be displayed.

Tip

You can also access the Symbol Uses/Calling Tree from within the Outline View by right-clicking on a symbol and selecting **Show Call Tree**.

Figure 6.7. Symbol Uses/Calling Tree Dialog



String
args
args
CASE_INSENSITIVE_ORDER
CaseInsensitiveComparator
charAt(int i)
charAt(int index)
CharSequence
checkBounds(byte[] bytes, int offset, int length)
codePointAt(int index)
codePointBefore(int index)
codePointCount(int beginIndex, int endIndex)
Comparable
Comparator
compareTo(Object obj)
compareTo(String anotherString)
compareToIgnoreCase(String str)
concat(String str)
contains(CharSequence s)
contains(Object elem)
contains(Object o)

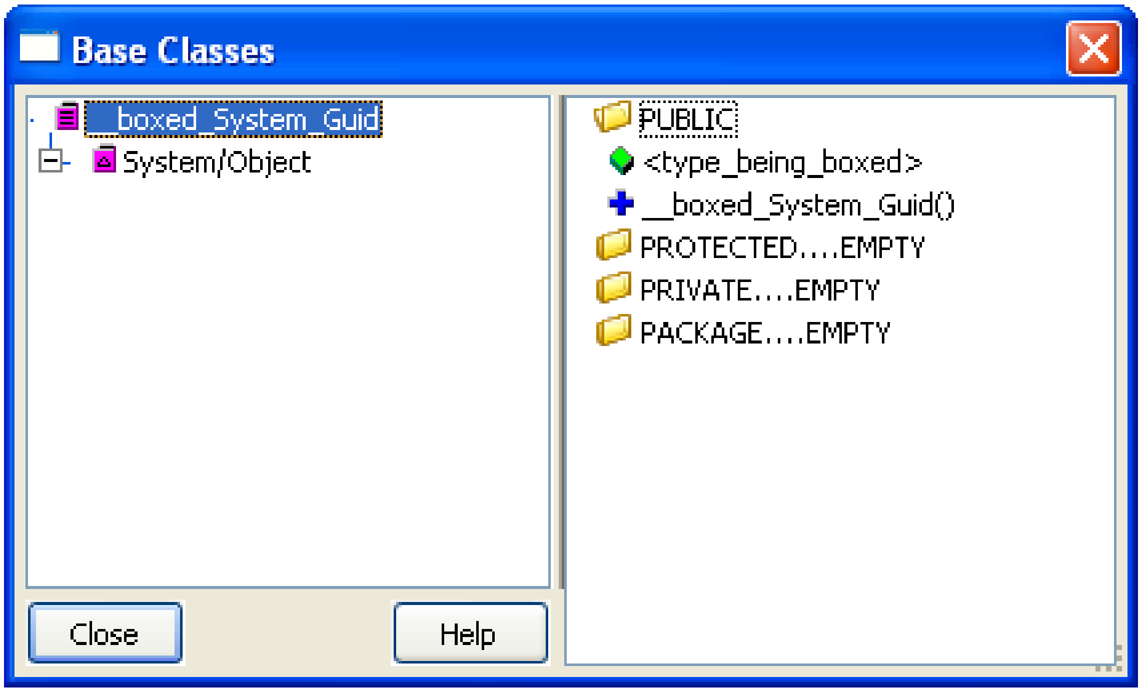
Right-click in this tree to display/modify the symbol filters. Items in the tree can be expanded to view uses recursively. Double-click or press the spacebar on an item in the tree list to go to an item. Double-click and **Space** are the same except when the item is a prototype that has a corresponding code section. Double-clicking will then go to the prototype's corresponding code section.

If the focus is in the Symbol Uses/Calling Tree dialog, the selected item will be shown in the Preview View, just as it is in the Symbols View.

Viewing Base and Derived Classes

To see what classes are inherited by a particular class, right-click on the class in the Symbols view and select **Base Classes**. To see what classes are derived from a particular class, right-click on the class in the Symbols view and select **Derived Classes**. Both dialogs have the same interface.

Figure 6.8. Base Classes Dialog



The left pane of each dialog contains a tree showing the class inheritance hierarchy (the class list). The right pane shows a list of the members of the selected class (the member list).

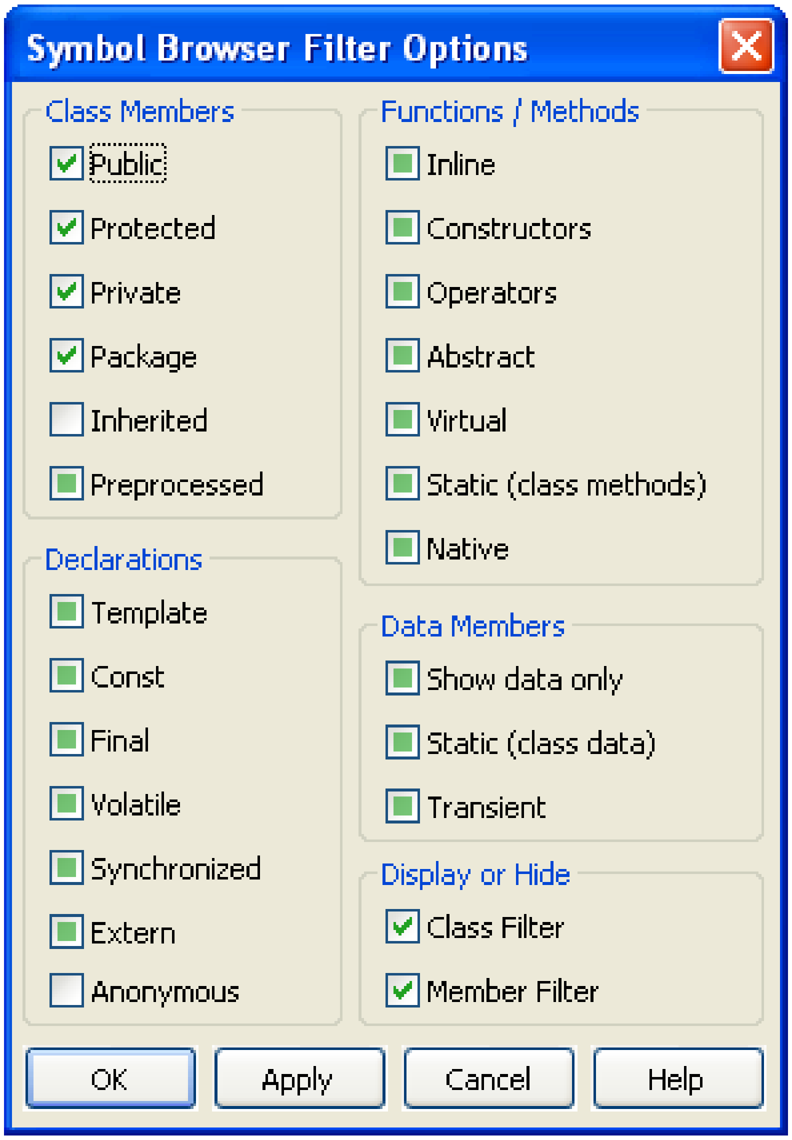
If the focus is in the class list, the selected class will be displayed in the member list, if it can be resolved. If the focus is in the member list, the selected item will be shown in the Preview view, and is the name as it appears within the class definition.

To jump to the symbol in the code, pushing a bookmark in the process, double-click on a symbol in either pane. Press **Ctrl**+**Comma** to go back. Right-click on a symbol for filtering options.

Symbol Browser Filter Options

To access symbol browser filter options, right-click in the Symbols view and click **Filters** → **Filtering Options**.

Figure 6.9. Symbol Browser Filter Options Dialog



Symbol Browser Filter Options

Class Members
- ✓ Public
- ✓ Protected
- ✓ Private
- ✓ Package
- ☐ Inherited
- 🟩 Preprocessed

Declarations
- 🟩 Template
- 🟩 Const
- 🟩 Final
- 🟩 Volatile
- 🟩 Synchronized
- 🟩 Extern
- ☐ Anonymous

Functions / Methods
- 🟩 Inline
- 🟩 Constructors
- 🟩 Operators
- 🟩 Abstract
- 🟩 Virtual
- 🟩 Static (class methods)
- 🟩 Native

Data Members
- 🟩 Show data only
- 🟩 Static (class data)
- 🟩 Transient

Display or Hide
- ✓ Class Filter
- ✓ Member Filter

Each option has three states: If the option is selected, only the specified items will be displayed. If the option is deselected, the specified item will not be displayed. If the option is in a neutral state, the item will not be considered in the filter.

The following options are available:

- **Class Members**
  - **Public** - When selected, public members are displayed.
  - **Protected** - When selected, protected members are displayed.
  - **Private** - When selected, private members are displayed.
  - **Package** - (Java only) When selected, package members are displayed. Java members have package scope if they do not specify public, protected, or private.

  - **Inherited** - When selected, only inherited members that this class can access are displayed. When unselected, only members of this class are displayed.
  - **Preprocessed** - When selected, only members expanded by pre-processing are displayed. This is specifically useful for MFC classes. When unselected, only non-preprocess members displayed.
- **Declarations**
  - **Template** - (C++ only) When selected, only template classes are displayed. When unselected, only non-template classes are displayed.
  - **Const** - (C++ only) When selected, only methods which do not modify members (**method1() const**) are displayed. When unselected, only non-const methods are displayed.

    Use the Symbol Properties View (right-click in the Symbols view and choose **Arguments**, or from the main menu click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **Symbol Properties**) to view other **const** information for declarations (for example, **int const * const *pcpcvariable;**).
  - **Final** - (Java only) When selected, only final members are displayed. When unselected, only non-final members are displayed.
  - **Volatile** - (C++ only) When selected, only volatile method members (**method1() volatile**) are displayed. When unselected, only non-volatile members are displayed.
  - **Synchronized** - (Java only) When selected, only synchronized members are displayed. When unselected, only non-synchronized members are displayed.
  - **Extern** - When selected, only identifiers defined explicitly using the **extern** keyword are displayed. When unselected, only identifiers defined which do not explicitly use the **extern** keyword are displayed.
  - **Anonymous** - When selected, only class names which are automatically generated by Context Tagging® are displayed. When unselected, only explicitly named classes are displayed.
- **Functions/Methods**
  - **Inline** - When selected, inline functions or methods are displayed.
  - **Constructors** - When selected, constructors are displayed.
  - **Operators** - When selected, overloaded operators are displayed.
  - **Abstract** - When selected, only abstract methods are displayed. When unselected, only non-abstract methods are displayed.
  - **Virtual** - When selected, only virtual methods are displayed. When unselected, only non-virtual methods are displayed. All non-static Java methods are implicitly virtual.
  - **Static (class methods)** - When selected, only static methods are displayed. When unselected, only non-static methods are displayed.

  - **Native** - When selected, only methods explicitly defined with the native keyword are displayed. When unselected, only non-native methods are displayed.

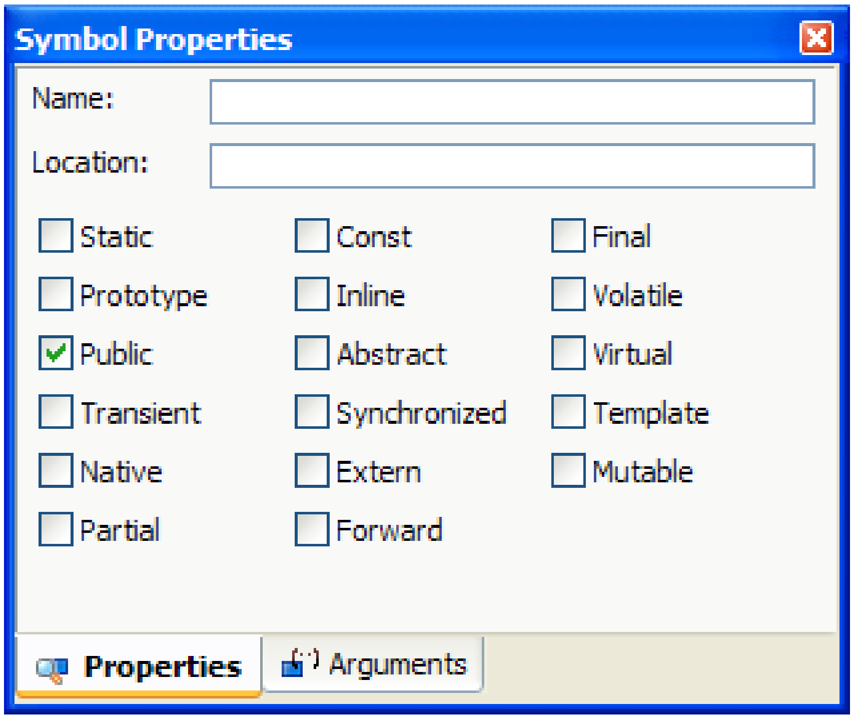
- **Data Members**
  - **Show data only -** When selected, only data members are displayed. When unselected, only methods are displayed.
  - **Static (class data)** - When selected, only static data members are displayed. When unselected, only non-static data members are displayed.
  - **Transient** - (Java only) When selected, only transient data members are displayed. When unselected, only non-transient data members are displayed.
- **Display or Hide**
  - **Class Filter** - When selected, the class filter is displayed in the Symbols view.
  - **Member Filter** - When selected, the member filter is displayed in the Symbols view.

Symbol Properties View

The Symbol Properties view displays detailed information (properties and arguments) for the symbol at the cursor location. Note that this window is read-only, so you can’t use it to change the properties.

To open the Symbol Properties view, right-click on a symbol in the Symbols view and click **Properties**.

Figure 6.10. Symbol Properties View



Symbol Properties

Name:	
Location:	

☐ Static	☐ Const	☐ Final
☐ Prototype	☐ Inline	☐ Volatile
✓ Public	☐ Abstract	☐ Virtual
☐ Transient	☐ Synchronized	☐ Template
☐ Native	☐ Extern	☐ Mutable
☐ Partial	☐ Forward	

Code Templates

Code templates are pre-defined units of code that you can use to automate the creation of common code elements, like a standard class implementation or design patterns. You can create templates for a whole file or multiple files. Templates can contain substitution parameters that are replaced when the template is instantiated—when a new element is created from that template. Some parameters are replaced with calculated or pre-defined values, like date or author. If a value is not known, you will be prompted for a value when the template is instantiated.

Code templates are composed of one or more template source files and a metadata file providing additional information, like the name of the template, a description of the template, prompts for substitution parameters, and default values for substitution parameters. The following is an example of a single file source template. The items surrounded by dollar signs ($) are the substitution parameters.

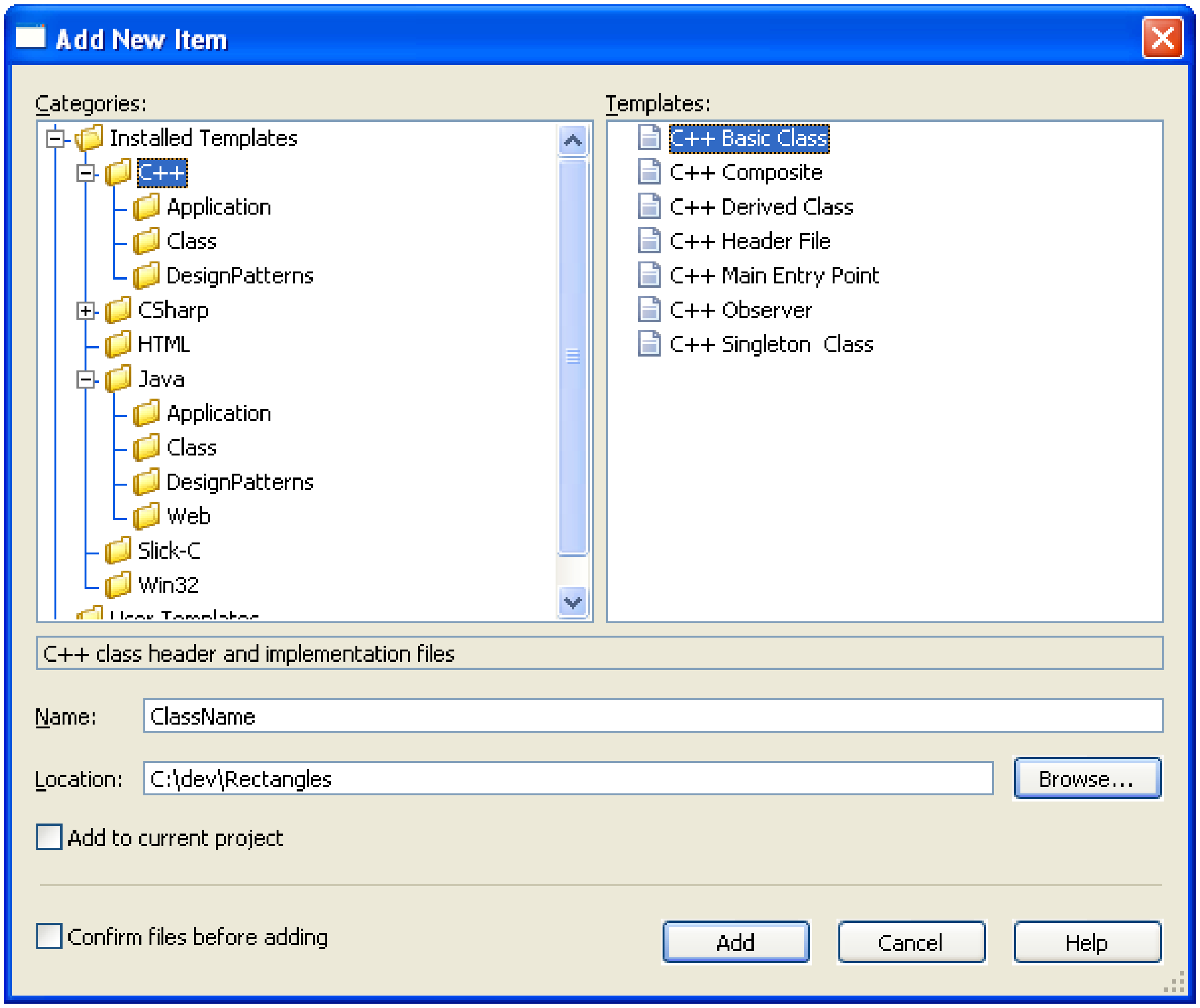
```
/*
 * $copyright$
 */

package $package$;
/**
 * @author $author$
 * @version $version$
 */
public class $safeitemname$ {

    /**
     * Default constructor.
     */
    public $safeitemname$(){
    }
}
```

Templates can be organized into Categories to make them easier to manage. The templates shipped with SlickEdit® Core are organized into categories by language and then by purpose. Use the Template Manager dialog to add, edit, and delete user templates. The Template Manager dialog is accessed by clicking **File** → **SlickEdit Template Manager**.

Instantiating a Template

You can add an item to your current project by clicking **File** → **New Item from SlickEdit Template**. If you want to create a new item from a template without adding it to your current project, then click **File** → **New Item from SlickEdit Template**. The Add New Item dialog box is shown below.

Figure 6.11. Add New Item Dialog



C++ class header and implementation files

Name: ClassName

Location: C:\dev\Rectangles

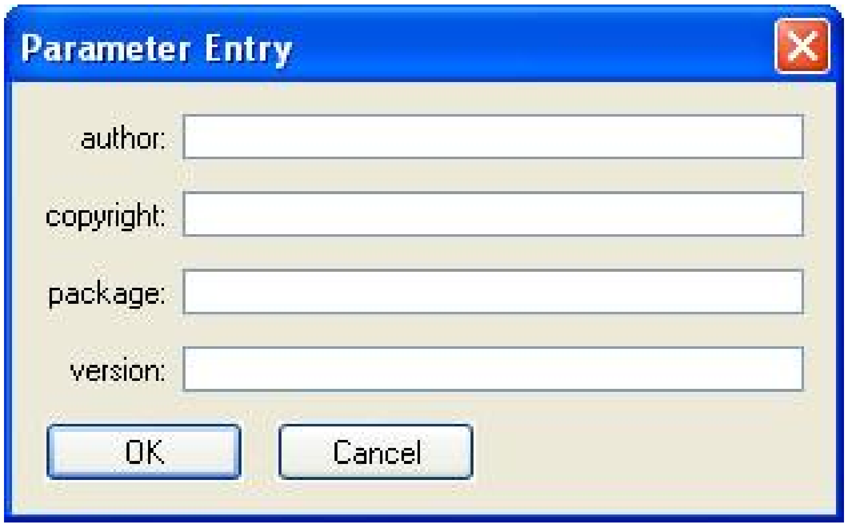
☐ Add to current project

☐ Confirm files before adding

We call the process of creating new files from a template "instantiating a template". When a template is instantiated, you are prompted for the name of the new item. This name is often used heavily in the template. For a class template, the name will likely be the class name or a part of the class name. In the sample template, **$safeitemname$** is a form of this name that strips out any spaces, making it safe to use as part of an identifier. This value can even be used as part of the file name when the template is instantiated.

If any of the values in the template are not known at instantiation time, the Parameter Entry dialog box, shown below, will prompt you for values.

Figure 6.12. Parameter Entry Dialog



Creating Templates

Creating templates is very much like writing code. To create a new code template, complete the following steps:

1. Create the template source files.
2. Insert substitution parameters into the template files.
3. Use the Template Manager to create a new template.
4. Add the template files to the newly-defined template.

Create the Template Source Files

This is the same process as writing any source file. Use SlickEdit® Core to write a file from scratch or to modify an existing file. Make sure your file is syntactically correct to minimize compile errors after it is instantiated.

In many languages, the **$name$** syntax used by Code Templates is legal for identifiers, so you will be able to compile and run your template source files prior to instantiating them. In other languages, you will have to use temporary identifier names while writing the templates, and then put in the substitution parameters once you are sure the source is correct.

You can store these source files in any directory and copy them to the templates directory during Step 4.

Insert Substitution Parameters into the Template Files

Use substitution parameters for any part of the source code that can differ from instantiation to instantiation. This includes class names, author names (if several people are sharing the same template files), or creation dates.

In our sample, we put in a substitution for copyright statement. See Substitution Parameters for more details.

Use the Template Manager to Create a New Template

Click **File** → **SlickEdit Template Manager** to bring up the Template Manager. Select the **User Template** folder in the tree, and right-click in either the **Categories** pane or the **Templates** pane to create a new template.

There are different operations based on whether you want to create a new category or not. You will be prompted for the name of the new template. Fill in a name and click **OK**. Now you can use the Template Manager to enter a description, add files, or set values for Custom Parameters.

Add the Template Files to the Newly-Defined Template

Select the **Files** tab on the Template Manager dialog and click the **Plus** (+) button to add the files you created in Step 1 to this template. You will have the option to link to the source in its current location or copy it to the template directory. You will also be prompted for a target file name. If you want the name of the instantiated template to appear in the file name, you should use a substitution variable in the name, like **My$safeitemname$Class.java**.

Substitution Parameters

Substitution parameters provide the real power in Code Templates. Without them, you would simply be making copies of static files. You can use substitution parameters to replace any text in the template's source code. You can also use substitution parameters in file names, which is useful in Java where a class must be defined in a file by the same name.

Substitution parameters are written as identifiers surrounded by a delimiter. The default delimiter is **$**. Use a double delimiter to represent the delimiter character in a template source file, **$$**. You can specify a different character to use as the delimiter. Click **File** → **SlickEdit Template Manager** and click on the **Custom Parameters** tab to change the value for the **Delimiter** field.

We provide a set of predefined substitution parameters for items related to item name, project name, directories, date, and time. We can determine the value for these items rather than having to prompt for them. See the list at the end of this section for all the predefined substitution parameters.

You can define substitution parameters that are common to all templates. For example, you might want to define an "author" parameter where the parameter value is your name. You could then create code templates that fill in a header comment with the author's (your) name. You would only have to define the substitution parameter once. To define these parameters, open the Template Manager and select the **Custom Parameters** tab.

If no value is provided for a substitution parameter, you will be prompted for one when the template is instantiated. This is useful for things like class name or other values that are different each time the template is instantiated.

Predefined Substitution Parameters

The following substitution parameter names and values are pre-defined for use in an item template. The default delimiter **$** is used:

Table 6.2. Predefined Substitution Parameters

Parameter Name	Description
$itemname$	Name of item entered, as on the Add New Item dialog.
$fileinputname$	Name of item entered, as on the Add New Item dialog, without file extension.
$safeitemname$	Name of item entered, as on the Add New Item dialog, with all unsafe characters replaced with safe characters. For example, if the item name was **My Custom Class**, then the **$safeitemname$** would evaluate to **My_Custom_Class** for a C++ source code file.
$upcasesafeitemname$	Same as **$safeitemname$** with all characters uppercased.
$lowcasesafeitemname$	Same as **$safeitemname$** with all characters lowercased.
$tempdir$	Location of operating system temp directory. No trailing file separator.
$rootnamespace$	Root namespace or package for the current project. This is typically used for C# and Java projects to find the namespace containing **Main()** (or **main()** in the case of Java).
$ampmtime$	Time of day in the form **hh:mm[am|pm]**. Example: 11:34pm
$localtime$	Time of day in locale-specific format.
$time$	Time of day in the form **hh:mm:ss**.
$localdate$	Current date in locale-specific format.
$date$	Current date in the form **mm/dd/yyyy**.
$projectname$	Current project name (no path, no extension).

Parameter Name	Description
$safeprojectname$	Current project name (no path, no extension), with all unsafe characters replaced with safe characters. For example, if the project name was: `My Project.vpj`, then **$safeprojectname$** would evaluate to **My_Project** for a C++ source code file.
$workspacename$	Current workspace name (no path, no extension).
$safeworkspacename$	Current workspace name (no path, no extension), with all unsafe characters replaced with safe characters. For example, if the workspace name was: `My Workspace.vpw`, then **$safeworkspacename$** would evaluate to **My_Workspace** for a C++ source code file.
$projectworkingdir$	Current project working directory. No trailing file separator.
$projectbuilddir$	Current project build (output) directory. No trailing file separator.
$projectconfigname$	Current project configuration name.
$workspaceconfigname$	Current workspace configuration name. This will be the same as **$projectconfigname$** except for MS Visual Studio workspace which will have a separate workspace/solution configuration name.
$projectdir$	Location of current project file. No trailing file separator.
$workspacedir$	Location of current workspace file. No trailing file separator.
$username$	Operating system login name.

Organizing Templates

Templates are organized into category hierarchies as shown on the Add New Item dialog. These category hierarchies map exactly to the directory structure under the locations for installed and user templates.

To create a new template item category:

1. Create a new folder under the user templates directory. For example, if you wanted to create a Dialogs category for Java project items, you would create the following directory: `<ConfigDir>/templates/ItemTemplates/Java/Dialogs/`
2. Place all templates for the category under this directory.
3. Create a new project or open an existing one.
4. From the main menu click **File** → **New Item from SlickEdit Template**.
5. Verify that your new category appears in the **Categories** list on the Add New Item dialog box.

Caution

We do not recommend creating new categories or re-organizing categories under installed templates since the next patch or upgrade would overwrite any customizations you have made. If you want to customize an installed template, then we suggest you copy it to the user templates directory and perform your customization on the copy.

Template Manager Operations

Use the Template Manager dialog to add, edit, and delete templates. You can show this dialog by clicking **File** → **SlickEdit Template Manager**. Use the **Categories** list to select a category. Selecting a category populates the **Templates** list with templates for that category.

Creating a New Category

To create a new category under the selected category, right-click in the **Categories** tree and select **New Category**. You will be prompted for a category name. After clicking **OK**, you can add templates in the new category.

Creating a New Template

To create a new template, select the category in which to create the template, then right-click in the **Templates** list and select **New Template**. You will be prompted for a template name which is used to create the new template file. After clicking **OK**, you can edit the new template the lower half of the dialog.

Editing an Existing Template

To edit an existing template, select a template from the **Templates** list, and edit its properties in the lower half of the dialog.

Deleting a Template

To delete a template, select the template you want to delete from the **Templates** list, right-click and select **Delete Template** from the context menu.

Template Manager Dialog

The Template Manager dialog is made up of the following elements:

- **Categories** - Lists a hierarchy of item categories for installed and user template items.

  Note

  Installed templates can be viewed but not modified.

- **Templates** - Lists the templates for the currently selected category. When you select a template, you are able to edit its properties in the lower half of the dialog.

- **Template file** - File name of the currently selected template.

Details Tab

The **Details** tab of the Template Manager dialog contains the following:

- **Name** - Specifies the name for the template item. The name is used in the **Templates** list of the Add New Item dialog.

- **Description** - Specifies the description for the template item. The description is displayed on the Add New Item dialog when the template is selected.

- **Default name** - Specifies the default item name when using the Add New Item dialog box.

- **Sort order** - Specifies an order number that is used to sort the template item in relation to other template items in a list. Used to sort template items in a category on the Add New Item dialog box. Lower sort orders are placed ahead of higher sort order values in a sorted list.

Files Tab

Use the **Files** tab of the Template Manager dialog to add, edit, order, and delete files in a template. Files are created from a template when using the Add New Item dialog, as when adding an item template to a project.

Add, Edit, Order, and Delete operations are accessible from the buttons on the right side or from the context menu inside the list of files.

Custom Parameters Tab

Use the **Custom Parameters** tab of the Template Manager dialog to add, edit, and delete substitution parameters in a template. Substitution parameters are used to replace parameter names in the content of files created from a template with a pre-defined value. Substitution parameters can also be used to form target file names (**Files** tab).

Add, Edit, and Delete operations are accessible from the buttons on the right side or from the context menu inside the list of parameters.

Template Options Dialog

Use this dialog to edit options that are common to all templates. You can launch this dialog from the Template Manager dialog by clicking the **Options** button.

Global Substitution Parameters

The **Global substitution parameters** area on the Template Options dialog lists the substitution parameters that are common to all templates. A common substitution parameter, for example, could be "author" where the parameter value is your name. You could then create code templates that automatically fill in a header comment with the author's (your) name.

Add, Edit, and Delete operations are accessible from the buttons on the right side or from the context menu inside the list of parameters.

Add File Dialog

Used to add a file to a template. To launch this dialog, right-click on a file in the **Files** tab of the Template Manager dialog, and select **Add File**, or use the **Add File** button. The dialog contains the following:

- **Source file name** - When a file is created from a template, as when adding an item template from the Add New Item dialog, it is created from the source file with this file name.
- **Copy source file to template directory** - Check this option to place a copy of the file in the current template's directory and change the source file name to point to the new file in the template. The file is not copied until you click **OK**.
- **Target file name** - When a file is created from a template, as when adding an item template from the Add New Item dialog, the file name of the file that is created on disk is formed from the target file name in the location you specify. Use the menu button to the right of this field to insert common pre-defined substitution parameters. For example, **$fileinputname$** is the item name provided on the Add New Item dialog when adding an item template to your project.
- **Replace parameters in target file content** - Check this option if you want substitution parameters embedded in the content of the target file to be replaced when the file is created from the template, as when adding an item template to your project from the Add New Item dialog.
- **Preview** - Previews how the file would be copied when creating the file from a template as if the source file name and target file name were fully resolved.

Add Parameter Dialog

Used to add a custom substitution parameter to a template. This dialog is launched when performing an Add operation from the **Custom Parameters** tab of the Template Manager Dialog. When files are created from a template, as when adding an item template to your project from the Add New Item dialog box, you can configure your template to replace all substitution parameters with values. For a list of pre-defined substitution parameters, see Predefined Substitution Parameters.

The Add Parameter dialog contains the following:

- **Name** - This is the name of the substitution parameter WITHOUT delimiters. For example, if the delimiter is **$** (the default), then a substitution parameter that inserts a copyright string would have a name of "copyright" and NOT "$copyright$". Do not use quotes in the name. Valid characters for a parameter name are: A-Za-z0-9_
- **Value** - This is the value that the substitution parameter evaluates to when a string or file is created from the template and has its substitution parameters replaced with values.
- **Prompt for value** - Check this option if you always want to be prompted for the value of a substitution parameter. When set, the **Value** field becomes a default value field and is used to pre-populate the value when you are prompted.
- **Prompt string** - Specifies the prompt string to display when being prompted for a substitution parameter value.

Add New Item Dialog

Used to add an item to your current project, the Add New Item dialog is displayed when you click **File** → **New Item from SlickEdit Template**.

Use the **Categories** list to select a category. Selecting a category populates the **Templates** list with template items for that category. You can then select an item from the **Templates** list, enter a unique **Name** for the item, and enter a **Location**. Click **Add** to instantiate the template with the name and location you provided.

You can manage your templates from the Template Manager dialog box by choosing **File** → **SlickEdit Template Manager**.

The Add New Item dialog contains the following:

- **Categories** - Lists a hierarchy of item categories for installed and user template items.
- **Templates** - Lists the template items for the currently selected category. When you select a template item, a brief description for that item is displayed just above the **Name** field.
- **Name** - Enter the name of the file you want to create.

Note

For single file templates (templates that create a single file) this is the name of the file. Multi-file templates use the name of the item entered to form names of files in the template. For more information about creating multi-file templates, see Creating a Multi-file Template.

- **Location** - Enter the location to which to save the item.
- **Add to current project -** When selected, the new item is added to the current project.
- **Add** - After you have selected a template item, provided a name and a location, click **Add** to instantiate the template item.

Locating Templates

Installed Templates

Templates that are installed with the product are located at:
`<SlickEditCoreInstallDir>/eclipse/plugins/com.slickedit.core_VERSION/sysconfig/templates/ItemTemplates/`

For example, the following directory under Windows contains item templates for the C++ language:
`c:\SlickEdit Core\eclipse\plugins\com.slickedit.core_VERSION\sysconfig\templates\ItemTemplates\C++\`

User Templates

User templates are templates that the user creates and are located at:
`<ConfigDir>/templates/ItemTemplates/`

Tip

You can locate your configuration directory by clicking **Help** → **About SlickEdit Core**.

Manually Creating a Template

Code Templates are represented as files stored in specific directories. A template is composed of the source file or files for the template and a metadata template file that provides additional information. Since these are just files, you can write them using SlickEdit® Core.

To manually create an item template:

1. Choose a category folder under the user templates directory. Your user templates directory is at:
   `<ConfigDir>/templates/ItemTemplates/`

   Tip

   You can locate your configuration directory by clicking **Help** → **About SlickEdit Core**.

   All files will be created relative to the folder you choose. For more information about how templates are organized, see Organizing Templates.

2. Create or edit a code file (e.g. `*.cpp`, `*.java`, etc.). Replace occurrences of substitutable text with substitution parameter names. For example, you might want to make the name of a C++ or Java class into a substitution parameter, in which case you could use the **$safeitemname$** substitution parameter. For more information on substitution parameters, see Substitution Parameters.

3. Create an XML file and give it an extension of `.setemplate`.

4. Insert template metadata into the `.setemplate` file. See the example below. For more information on template metadata elements, see Code Template Metadata File Reference.

5. Create a new project or open an existing one.

6. From the main menu, click **File** → **New Item from SlickEdit Template**.

7. Verify that your new template item appears in the **Templates** list on the Add New Item dialog box.

Example

The following example illustrates the metadata for an item template for a custom Java class, along with the content of the Java source code file.

From the Add New Item dialog box, if the user entered `Foo.java` for the item name, then **$fileinputname$** would be replaced with "Foo" in the file name of the file created, and **$safeitemname$** would be replaced with "Foo" in the Java source code file.

`MyClass.setemplate`:

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File TargetFilename="$fileinputname$.java">MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

`MyClass.java`:

```
class $safeitemname$ {
};
```

Creating a Multi-file Template

A multi-file template is a template item that creates more than one file.

Multi-file templates require the use of substitution parameters to ensure that file name and extension parts are used when creating each file of the template item. For example, a C++ class typically consists of:

- A `.h` file that contains the class definition.
- A `.cpp` file that contains the class implementation.

Since you can only enter one name into the **Name** field on the Add New Item dialog box, you need a way to specify the target file name for each file created by the multi-file template. In the C++ class example below, the `.h` and `.cpp` files are created with the name you provide, while their extensions are preserved.

To create a multi-file item template from the Template Manager dialog, click **File** → **SlickEdit Template Manager**.

To manually create a multi-file item template:

1. Create the item template the same way a single file template would be created. For more information on manually creating a template item, see Manually Creating a Template.
2. Add TargetFilename attributes to each of the File elements in your template metadata file (`.setemplate`). Set the value of each TargetFilename attribute to **$fileinputname$.<extension>**, where ***<extension>*** is the file extension of the target file name being created. When the files are created, their names will be based on the name you entered in the **Name** field of the Add New Item dialog box. See the example below.

Example

The following example demonstrates a multi-file item template `.setemplate` file. The item creates C++ class header (`.h`) and implementation (`.cpp`) files.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My C++ Class</Name>
    <Description>My complete C++ class header and implementation</Description>
    <DefaultName>MyClass.cpp</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
```

```
      <File TargetFilename="$fileinputname$.cpp">MyClass.cpp</File>
      <File TargetFilename="$fileinputname$.h">MyClass.h</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Code Template Metadata File Reference

Template metadata describes the template item, its files, and how to create the template. Template metadata files have a `.setemplate` extension.

The **SETemplate** element is the root element of a template file.

Table 6.3. Summary of Metadata Element

Element	Child Elements	Attributes
DefaultName	-	-
Description	-	-
File	-	ReplaceParamet-ers,TargetFilename
Files	File	-
Name	-	-
Parameter	-	Name,Value
Parameters	Parameter	-
SETemplate	TemplateContent,TemplateDetails	Type,Version
SortOrder	-	-
TemplateContent	Files,Parameters	Delimiter
TemplateDetails	Default-Name,Description,Name,SortOrder	-

Elements

DefaultName

DefaultName is an optional child element of **TemplateDetails**. Specifies the default item name when using the Add New Item dialog box. This element becomes more important in multi-file templates where you need to specify a **DefaultName** element in order to create file names from parts of the input item name. See the example below.

- **Attributes** - None.
- **Child elements** - None.
- **Parent elements** - **TemplateDetails**.
- **Value** - Text value is required. The text value specifies the default name of the template item. Used to populate the name field with an initial value on the Add New Item dialog box.

Example

The following example illustrates the metadata for an item template for a C++ class that creates a header file (`.h`) and implementation file (`.cpp`).

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My C++ Class</Name>
    <Description>My complete C++ class header and implementation</Description>
    <DefaultName>MyClass.cpp</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File TargetFilename="$fileinputname$.cpp">MyClass.cpp</File>
      <File TargetFilename="$fileinputname$.h">MyClass.h</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Description

Description is a required child element of **TemplateDetails**. Specifies the description for the template item. See the example below.

- **Attributes** - None.

- **Child elements** - None.
- **Parent elements - TemplateDetails**.
- **Value** - Text value is required. The text value specifies the description of the template item. The description is shown on the Add New Item dialog box.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

File

File is an optional child element of **Files**. Specifies a file for the template item. See the example below.

- **Attributes**:
  - **ReplaceParameters** - Optional. Specifies whether parameter substitution takes place on the file contents when the file is created from the template. Note that parameter substitution always takes place on the **TargetFilename** attribute value (example: **TargetFilename="$fileinputname$.cpp"**). Possible values are **1** (true) or **0** (false). Defaults to **1** (true).
  - **TargetFilename** - Optional. Specifies the actual name of the item that is created from the template. This attribute is especially useful when creating a multi-file template where file names of files created from the template are assembled by parameter substitution.
- **Child elements** - None.
- **Parent elements - TemplateContent**.
- **Value** - Text value is required. Value is the path of a file in the template item.

Example

The following example illustrates the metadata for an item template for a C++ class that creates a header file (`.h`) and implementation file (`.cpp`).

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My C++ Class</Name>
    <Description>My complete C++ class header and implementation</Description>
    <DefaultName>MyClass.cpp</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File TargetFilename="$fileinputname$.cpp">MyClass.cpp</File>
      <File TargetFilename="$fileinputname$.h">MyClass.h</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Files

Files is a required child element of **TemplateContent**. Specifies files for the template item. See the example below.

- **Attributes** - None.
- **Child elements** - File.
- **Parent elements** - **TemplateContent**.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a C++ class that creates a header file (`.h`) and implementation file (`.cpp`).

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My C++ Class</Name>
    <Description>My complete C++ class header and implementation</Description>
    <DefaultName>MyClass.cpp</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File TargetFilename="$fileinputname$.cpp">MyClass.cpp</File>
      <File TargetFilename="$fileinputname$.h">MyClass.h</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Name

Name is a required child element of **TemplateDetails**. Specifies the name for the template item. See the example below.

- **Attributes** - None.
- **Child elements** - None.
- **Parent elements - TemplateDetails**.
- **Value** - Text value is required. The text value specifies the name of the template item. The name is shown in the **Templates** list on the Add New Item dialog box.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Parameter

Parameter is an optional child element of **Parameters**. Specifies a custom substitution parameter for the template item. For a list of pre-defined substitution parameters, see Predefined Substitution Parameters.

See the example below.

- **Attributes**:
  - **Name -** Parameter name. This is the name of the substitution parameter WITHOUT delimiters. For example, if the delimiter is $ (the default), then a substitution parameter that inserts a copyright string would be defined as "copyright" and NOT as **"$copyright$"**.
  - **Value -** Parameter value. This is the value that the substitution parameter evaluates to when a string or File is created from the template.
- **Child elements** - None.
- **Parent elements - Parameters**.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a custom Java class.

When `MyClass.java` is used to create the file from the template, all occurrences of **$copyright$** in the created file will be replaced with "(c)2005-2006".

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Parameters>
      <Parameter Name="copyright" Value="(c)2005-2006" />
    <Parameters>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Parameters

Parameters is a required child element of **TemplateContent**. Specifies custom substitution parameters for the template item. For a list of pre-defined substitution parameters, see Predefined Substitution Parameters.

See the example below.

- **Attributes** - None.
- **Child elements - Parameter**.
- **Parent elements** - **TemplateContent**.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a custom Java class.

When `MyClass.java` is used to create the file from the template, all occurrences of **$copyright$** in the created file will be replaced with "(c)2005-2006".

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Parameters>
      <Parameter Name="copyright" Value="(c)2005-2006" />
    <Parameters>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

SETemplate

Root element. Contains all metadata about template item.

- **Attributes**:

  - **Version** - Template version number. The current version is "1.0".
  - **Type -** Template type. Valid types are: "Item".
- **Child elements** - **TemplateDetails**, **TemplateContent**.
- **Parent elements** - None.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

SortOrder

SortOrder is an optional child element of **TemplateDetails**. Specifies an order number that is used to sort the template item in relation to other template items in a list. Used to sort template items in a category on the Add New Item dialog box.

If no **SortOrder** is specified for a template item, then the **SortOrder** value defaults to "0".

- **Attributes** - None.
- **Child elements** - None.
- **Parent elements - TemplateDetails**.
- **Value** - Text value is required. An integer that is greater than or equal to **0**. When sorting in relation to other template items, low **SortOrder** values are placed ahead of higher values in a sorted list.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
    <SortOrder>100</SortOrder>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

TemplateContent

TemplateContent is a required child element of **SETemplate**. Specifies the contents of a template item.

- **Attributes** - Optional. Delimiter used when replacing substitution parameters in content. Defaults to **$**.
- **Child elements** - **Files**, **Parameters**.
- **Parent elements** - **SETemplate**.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

TemplateDetails

TemplateDetails is a required child element of **SETemplate**. Describes the template item. Details are used to display the template item on the Add New Item dialog box.

- **Attributes** - None.
- **Child elements - DefaultName**, **Description**, **Name**, **SortOrder**.
- **Parent elements - SETemplate**.
- **Value** - N/A.

Example

The following example illustrates the metadata for an item template for a custom Java class.

```
<?xml version="1.0" ?>
<!DOCTYPE SETemplate SYSTEM
"http://www.slickedit.com/dtd/vse/setemplate/1.0/setemplate.dtd">
<SETemplate Version="1.0" Type="Item">

  <TemplateDetails>
    <Name>My Java Class</Name>
    <Description>My custom Java class</Description>
    <DefaultName>MyClass.java</DefaultName>
  </TemplateDetails>
  <TemplateContent>
    <Files>
      <File>MyClass.java</File>
    </Files>
  </TemplateContent>

</SETemplate>
```

Text Editing

SlickEdit® Core provides familiar operations for selecting, copying, moving, and operating on text, with enhanced capabilities to meet the needs of developers. This section also describes how to work with lines, sort text, and insert literal characters into your text.

Selections

SlickEdit® Core supports three kinds of selections: **character**, **line**, and **block**. Each provides different capabilities for different editing situations, and easy access for those who like to work using the keyboard only or the mouse. For a table of keyboard shortcuts, see Selection Keys.

Selected text is rendered with a shaded background. To change the selection color, use the Color Settings dialog box (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **Color** setting). See Setting Colors for Screen Elements for more information on changing colors.

Tip

When using the mouse for selections, you can switch the selection type from character to block or to line. While the left button is down, click the right button to toggle through the selection types.

Character Selections

Character selections are used to select words, parts of a line, or a range of text between a starting location and an ending location. To create a character selection, use one of the following methods:

- **Keyboard method** - Position the cursor at the beginning of the text to be selected. Next, enter the **select_char** command (**F8** or **Edit** → **Select** → **Char**). Then, move the cursor to the end of the text to be selected by using the arrow keys (or by using the mouse).
- **Cursor method** - Press and hold **Shift** with any cursor key, including **PgUp**, **PgDn**, **Home**, and **End**, to create a quick character selection. For example, **Shift**+**Home** will create a character selection from the cursor position to the beginning of the line. **Shift**+**End** will create a selection from the cursor to the end of the line. You can also use **Ctrl**+**Shift**+**Home** to create a character selection from the cursor position to the top of the file, or **Ctrl**+**Shift**+**End** to create a selection from the cursor to the end of the file.
- **Mouse method** - Left-click and drag the text to be selected, or double-click to select a whole word. To extend a selection to the cursor, hold down the **Shift** key and left-click.

Note

The key bindings are different if using the Vim emulation. See the Vim emulation chart (located in the `/docs` subdirectory of your installation directory) for a listing of selection keys.

Block Selections

Block selections, also known as column selections, are used to process columns of text. To select a block, use one of the following methods:

- **Keyboard method** - Position the cursor at the beginning of the text to be selected. Next, enter the **select_block** command (**Ctrl**+**B** or **Edit** → **Select** → **Block**). Then, move the cursor to the end of the block to be selected by using the arrow keys (or by using the mouse).
- **Mouse method** - Right-click and drag the text to be selected.

Editing a Block of Text: Block Insert Mode

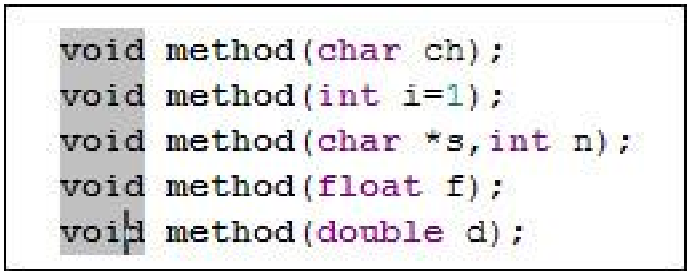
Block insert mode is useful when you need to edit a block of text instead of just copying or deleting it. Additionally, when in this mode, characters you type, as well as other edits (such as backspacing and deleting), apply to the entire block/column selection.

After a block selection is created, you can enter block insert mode by simply typing some characters to insert, or by entering the **block_insert_mode** command (**Edit** → **Other** → **Block Insert Mode**). If the block selection is more than one column wide, then the initial block selection will be deleted when you type the first character. This mode also supports use of the keys **Tab**, **Shift**+**Tab**, and **Backspace**.

To cancel out of block insert mode, press the **Esc** key.

The figure below shows an example of a block selection created by right-clicking and dragging to select a block. Notice the cursor position.

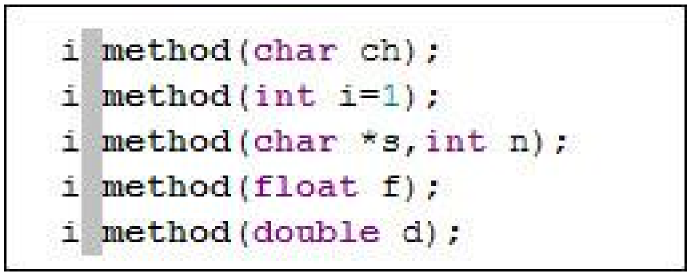
Figure 6.13. Block Insert Mode: Example 1



```
void method(char ch);
void method(int i=1);
void method(char *s,int n);
void method(float f);
void method(double d);
```

The figure below shows how the above example changes when you type "i" at the cursor while the block is selected.

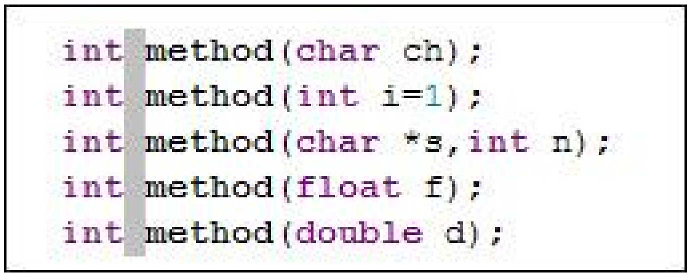
Figure 6.14. Block Insert Mode: Example 2



```
i method(char ch);
i method(int i=1);
i method(char *s,int n);
i method(float f);
i method(double d);
```

The figure below shows how the original example changes when you type "int" at the cursor while the block is selected.

Figure 6.15. Block Insert Mode: Example 3



```
int method(char ch);
int method(int i=1);
int method(char *s,int n);
int method(float f);
int method(double d);
```

Line Selections

A line selection is any selection that includes one or more complete lines of text. Line selections are usually the best way to edit lines of code, and they also work with SmartPaste®, which reindents pasted lines according to the surrounding code (see SmartPaste). To select lines, use one of the following methods:

- **Keyboard method** - Position the cursor at the beginning of the line to be selected. Next, enter the **select_line** command (**Ctrl**+**L** or **Edit** → **Select** → **Line**). Then, move the cursor to the last line to be selected by using the arrow keys (or by using the mouse).
- **Mouse method** - To select the current line, triple-left-click within a line (or click **Edit** → **Select** → **Line**). To select multiple lines, left-click and drag in the space between the left edge of the buffer and the edit window border. The mouse cursor changes to point to the upper right instead of the upper left.

Selection Keys

The following table contains the default keyboard shortcuts (CUA emulation) for selection functions.

Table 6.4. Selection Key

Key or Key Sequence	Function
Ctrl+**U**	Deselect text.
F8	Start character selection.
Ctrl+**L**	Start line selection.
Ctrl+**B**	Start block or column selection.
Shift+**Right**	Start or extend selection to right.
Shift+**Left**	Start or extend selection to left.

Key or Key Sequence	Function
Shift+**Up**	Start or extend selection up one line.
Shift+**Down**	Start or extend selection down one line.
Shift+**PgUp**	Start or extend selection up one page.
Shift+**PgDn**	Start or extend selection down one page.
Ctrl+**Shift**+**Home**	Start or extend selection to top of buffer.
Ctrl+**Shift**+**End**	Start or extend selection to bottom of buffer.
Ctrl+**X**	Cut selected text.
Ctrl+**C**	Copy selected text to clipboard.
Ctrl+**V**	Paste clipboard.
Ctrl+**Shift**+**V**	List clipboards.

Different selection styles found in non-CUA compliant editors, such as Brief, are also provided. To use a different selection style, use the Selections Tab of the General Options dialog box (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **General** setting).

Modifying Selected Text

After you select text, you can invoke a key or type a command that modifies the selected text. Use the information in the following table to assist you when making modifications to selected text. When two commands are displayed, the first command is the command line version of the command, and the second is the graphical version of the command.

Table 6.5. Operations for Selected Text

Command	Key Sequence or Menu Item	Description
mou_click_copy	**Ctrl**+**L**	Drags and copies the selected text. Click within the selected text and hold the left button down while moving the mouse to a new location. Line selections are inserted after the current line by default. If you want line selections inserted before the current line,

Command	Key Sequence or Menu Item	Description
		change the line insert style. To access the line insert style, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab.
mou_move_to_cursor	**Ctrl**+**R**	Moves the selected text to the cursor.
mou_copy_to_cursor	**Ctrl**+**Shift**+**R**	Copies the selected text to the cursor.
mou_click L	Left click	Drags and moves the selected text. You must click within the selected text, and keep the left button down while moving the mouse to a new location.
list_clipboards	**Ctrl**+**Shift**+**V**	Allows you to select a clipboard from a list of the most recently used (15 is the default maximum) clipboards to insert at the cursor.
copy_to_clipboard	**Ctrl**+**C**	Copies selected text to the clipboard.
append_to_clipboard	**Ctrl**+**Shift**+**C**	Appends selected text to the clipboard.
append_cut	**Ctrl**+**Shift**+**X**	Deletes the selected text and appends it to the clipboard.
copy_to_cursor	None	Copies selected text to the cursor. Line selections are inserted after the current line by default. If you want line selections inserted before the current line, change the line insert style. You can change the line insert style: Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dia-

Command	Key Sequence or Menu Item	Description
		log, click the More Tab, then set the **Line insert style** to **Before**.
fill_selection, **gui_fill_selection**	**Edit** → **Fill**	Fills the selected text with a character.
indent_selection	**Tab**	Indents the selected text by the indent for each level or by one tab stop. Indenting will be with tab or space characters depending upon whether the **Indent with tabs** check box is on.
unindent_selection	**Shift+Tab**	Unindents each line of selected text by the indent for each level or by one tab stop. Not all editing modes have an indent for each level.
lowcase_selection	**Edit** → **Other** → **Lowcase**	Converts the selected text to lowercase.
upcase_selection	**Edit** → **Other** → **Upcase**	Converts the selected text to uppercase.
shift_selection_left	**Shift+F7**	Shifts the text within the selection to the left. Supports the line and block text selection methods. If a character selection is used, it is converted to a line selection.
shift_selection_right	**Shift+F8**	Shifts the text within the selection to the right. Supports line and block selections. If a character selection is used, it is converted to a line selection.
overlay_block	**Edit** → **Other** → **Overlay block**	Overlays selected text at the cursor. Supports block selection only.
adjust_block	**Edit** → **Other** → **Adjust block**	Overlays selected text at cursor and fills the source selected text with blanks. Supports block selection only.
reflow_selection	**Source** → **Format Selection**	Word-wraps the text within the se-

Command	Key Sequence or Menu Item	Description
		lected area. Line selections are word-wrapped with current margin settings. Block selections are word-wrapped within the columns of the block. Character selection is not supported.
execute_selection	**Alt+=**	Executes each line or sub-line of the selected text as if entered on the command line.
put <filename>, **gui_write_selection**	None	Writes the selected text to file name. Use **File** → **Insert a File** to insert a file.
append <filename>, **gui_append_selection**	None	Appends the selected text to the file's file name.
sort_within_selection	None	Sorts lines within a selected area.
sort_on_selection	None	Sorts lines of text based on text within columns specified.
add	None	Adds selected text and inserts result below the last line of the selection. Addition is performed for each adjacent line. If no operator exists between two adjacent numbers, addition is assumed.
align_selection_left	None	For block selections only (see Block Selections), aligns the text enclosed in the selection to the left edge of the selection.
align_selection_center	None	For block selections only (see Block Selections), centers the text enclosed in the selection.
align_selection_right	None	For block selections only (see Block Selections), aligns the text enclosed in the selection to the right edge of the selection.

Adding Numbers to a Selection: Enumeration

You can automatically add incrementing numbers to a selection of code by using the **enumerate** command. To configure enumeration properties, from the main menu click **Edit** → **Other** → **Enumerate**. For a list of the options that are available on the Enumerate dialog, see Enumerate Dialog.

Counting Selected Lines and Characters

SlickEdit® Core automatically counts the number of lines and characters in a selection. This is useful to measure the length of a word or string, or the number of lines in a function. An indicator, located in the bottom edge of the editor, displays the following information based on your current selection:

- When nothing is selected, the indicator is dimmed and displays the text "No Selection."
- When the current selection is a **character selection**:
  - If the character selection is contained on one line, the indicator displays the number of columns selected.

    Note

    Because columns are "virtual", the number of columns displayed by the indicator is not necessarily the actual number of characters or bytes in the selection, if the selection includes tab characters, unicode characters, or extends beyond the end of the line.

  - If the character selection spans more than one line, the indicator shows the number of lines, with a plus sign (+) to indicate if there are "extra" characters selected, or a minus sign (-) to indicate if there are fewer characters selected, depending on the start and end columns of the selection.
- When the current selection is a **line selection**, the indicator displays the number of lines.
- When the current selection is a **block selection**, the indicator displays the size of the block in the format **Lines x Columns**.

Click on the indicator, or use the **select_toggle** command on the SlickEdit Core command line, to create successively larger common selections. For example, if you have a character selection, you can click on the indicator or use **select_toggle** to extend the selection to include the entire word. Selections are cycled in the following order, starting with no selection:

1. Create empty character selection
2. Select current word
3. Select current line
4. Select current code block
5. Select larger code block
6. Select current function

7. Select entire file

8. Deselect

Except for empty character selections and line selections, the selections are locked so that the cursor remains stationary.

Setting Selection Options

Many options are available for setting your selection preferences. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the Selections Tab.

Cutting, Copying, and Moving Text

Dragging and Dropping

Selected text can be copied or moved by dragging and dropping the selected text using the left mouse button. To set this functionality, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. Select the option **Allow drag drop text**.

Using Clipboards

Use clipboards to copy or move text among files that are being edited. This includes files that are being edited, the command line, a dialog text box, or another application that supports text clipboards, such as a word processor. When using a cut or copy command, a clipboard is created. Insert this clipboard back into the buffer by pressing **Ctrl**+**V**.

Press **Ctrl**+**K** to copy the current word to the clipboard. Then use **Ctrl**+**V** to paste it anywhere. Pressing **Ctrl**+**K** multiple times in succession creates one clipboard. All clipboard-related commands are available on the **Edit** drop-down menu.

To move text between clipboards, complete the following steps:

1. Go to the beginning of a line with some text and press **Ctrl**+**E** to erase the text to the end of that line.

2. Press **Ctrl**+**V** to paste the text back in.

3. Move the cursor somewhere else in the buffer and press **Ctrl**+**V**. You have just made a copy of a line of text without selecting anything first.

Pressing the same cut key multiple times in succession creates one clipboard. If you press **Ctrl**+**Shift**+**K** three times to cut three words, one clipboard is created that you can insert with **Ctrl**+**V**. This is true for cut line (**Ctrl**+**Backspace**) and erase to end of line (**Ctrl**+**E**) as well.

Tip

If using Brief emulation and a clipboard is wanted when cutting text, bind the commands **cut_word**, **cut_end_line**, and **cut_line** to the appropriate keys.

A stack of the last 15 (default maximum) of the most recently used clipboards is kept. You can change the maximum number of clipboards in the General Options dialog box (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab). To see a list of clipboards you have created, press **Ctrl**+**Shift**+**V** (**Edit** → **List Clipboards** or **list_clipboards** command). The Select Text to Paste dialog box appears.

The numbers on the far left are used to help move the selection cursor. The number following the clipboard type indicates the number for complete or partial lines of text in the clipboard.

Only clipboards of one line can be inserted into the command line or text box. Both **Ctrl**+**V** and **Ctrl**+**Shift**+**V** key sequences insert clipboard text into the text area or the command line. The result of inserting a clipboard into the text area varies depending on the clipboard type.

A LINE type clipboard is inserted after the current line by default. If you want LINE type clipboards inserted before the current line, change the line insert style (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab). A BLOCK type clipboard is inserted before the current character and pushes over all text intersecting with the block. No lines are inserted. A CHAR type clipboard is inserted before the current character.

Use the **View** button to look at the complete text for the selected condensed clipboard. While viewing the clipboard, you can copy all or part of it to the operating system clipboard.

Setting the Maximum Number of Clipboards

By default, a stack of your last 50 clipboards are kept, any one of which can be pasted with **Ctrl**+**Shift**+**V**. To change the maximum number of clipboards saved, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. Enter a value in the **Max clipboards** spin box.

Working with Lines

There are several options for working with lines as described in the following sections.

Clicking Past the End of a Line

To have the ability to place the cursor past the end of a line, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. Select the option **Click past end of line**.

Highlighting the Current Line

The current line can be highlighted by having a dotted box drawn around it, making the cursor easier to see. You can choose to make the highlight a box only, or you can choose a box with tab stops, syntax indent levels, or decimal points shown. To set these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. Select one of the **Current line highlight** options. Click on the color boxes to change the box color or the column marker color.

Preserving the Column on Top/Bottom

You can specify that the **top_of_buffer** (**Ctrl**+**Home**) and **bottom_of_buffer** (**Ctrl**+**End**) commands do not change the column position unless already at the top or bottom of the buffer. To set this option, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. Select the option **Preserve column on top/bottom**.

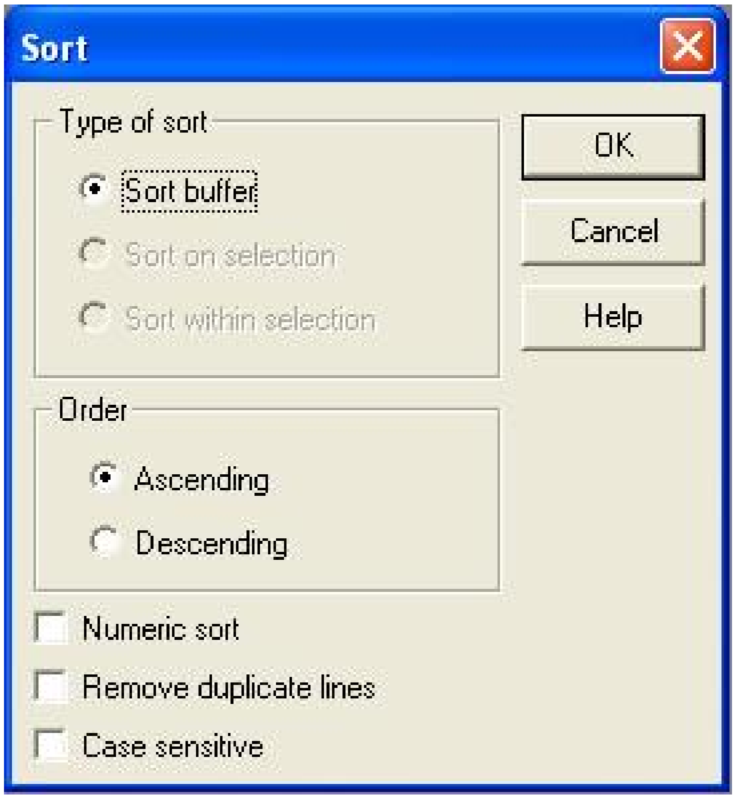
Setting the Line Insert Style

To set the line insert style, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab. Set the **Line insert style** to **Before** or **After**. When the line insert style is set to **Before**, lines of text are inserted before the current line. When the line insert style is set to **After**, lines of text are inserted after the current line.

Sorting Text

SlickEdit® Core uses a stable quicksort algorithm to sort text. It is recommended that at least half the text be in memory for best speed results. To sort text, from the main menu, click **Tools** → **Sort**. The Sort dialog box is displayed.

Figure 6.16. Sort Dialog



The following options are available:

- **Type of sort** - Choose the type of sort that you prefer from the following options:
  - **Sort buffer** - When this option is selected, the entire contents of the buffer that you are working in are sorted.
  - **Sort on selection** - When this option is selected, each line intersecting with the selection is sorted based on the selected column. **Sort on selection** and **Sort within selection** have the same effect except when sorting a block or column selection.
  - **Sort within selection** - When this option is selected, the selected text is sorted. Text outside a block or column selection is not moved. The **Sort on selection** and **Sort within selection** options have the same effect except when sorting a block or column selection.
- **Order** - Choose **Ascending** or **Descending**. In an ascending sort, the lowest text item sorted is placed at the top.
- **Numeric sort** - When this option is selected, a numeric comparison is performed.
- **Remove duplicate lines** - When this option is selected, it removes adjacent lines that are identical. This option does not fully support column selection (it always compares complete lines).
- **Case sensitive** - When this option is selected, the sort is case-sensitive.

Sort Commands

To use the command line for sorting, first activate the command line by pressing **Esc**. Sort command syntax is in the form ***`SortCommandOptionLetter(s)`***. The following sort commands are available:

- **sort_buffer** - Sorts the current buffer.
- **sort_within_selection** - Sorts text within a selected area. This command supports line and block selections only.
- **sort_on_selection** - To sort on a column field, press **Ctrl**+**B** to select an area of text, then invoke the command **sort_on_selection**. This command supports line and block selections only.

The table below describes the ***`OptionLetter(s)`*** that you can use with each command.

Table 6.6. Sorting Options

Option	Description
A	Sort in ascending order.
D	Sort in descending order.
I	Case insensitive sort (ignore case).
E	Case sensitive sort (exact case which is the default).
-N	Numeric sort. C-style floating point numbers with up to 32-digit mantissa are supported.
-F	File name sort.

Inserting Literal Characters

Characters can be inserted at the cursor location in the current buffer. This is useful if you wish to insert non-ASCII characters (keys not on the keyboard). To insert a literal character, from the main menu, click **Edit** → **Insert Literal**, or use the **insert_literal** command. The Insert Literal dialog is displayed.

The text box to the right of the **Character Code** label displays the character. The spin box displays the decimal character code, hex character code, or ASCII character depending on which of those options is selected.

Color Coding

This feature is designed to combine current line coloring, modified line coloring, and language-specific coloring. By default, the fundamental mode colors the current line. Languages with specific support already defined (i.e. keywords, comments, etc.) use language-specific coloring.

If modified line coloring is active, the left edge of the window displays a different color depending on whether the line was inserted or modified. To change the colors, use the Color Settings dialog box. For more information see, Colors.

When current line color coding is active, language-specific color coding for the current line is not viewable.

If you want to know what lines have been modified, bind the command **color_modified_toggle** to a key. It will toggle display of modified lines in a different color on/off. You can bind the **color_toggle** command to a key as well. This command toggles between current line, modified line, and language specific coloring individually.

Resetting Modified Lines on Save

SlickEdit® Core can clear the modified and inserted line color when you save a file. To activate this feature, select the **Reset line modify** option on the Save Tab of the File Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting.

Adding Color-Coded Keywords to Supported Languages

You can add color-coded keywords to a supported language. To add color-coded keywords to a supported language, complete the following steps.

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting.
2. Select the Tokens Tab.
3. Choose the language you want to modify from the **Lexer Name** combo box list.
4. Click **New**.
5. Enter the new keywords separated with a space character.
6. Click **OK**.
7. Click **OK** on the Color Coding Setup dialog box.

For more information, see Color Coding Configuration.

Creating Color Coding for a New Language

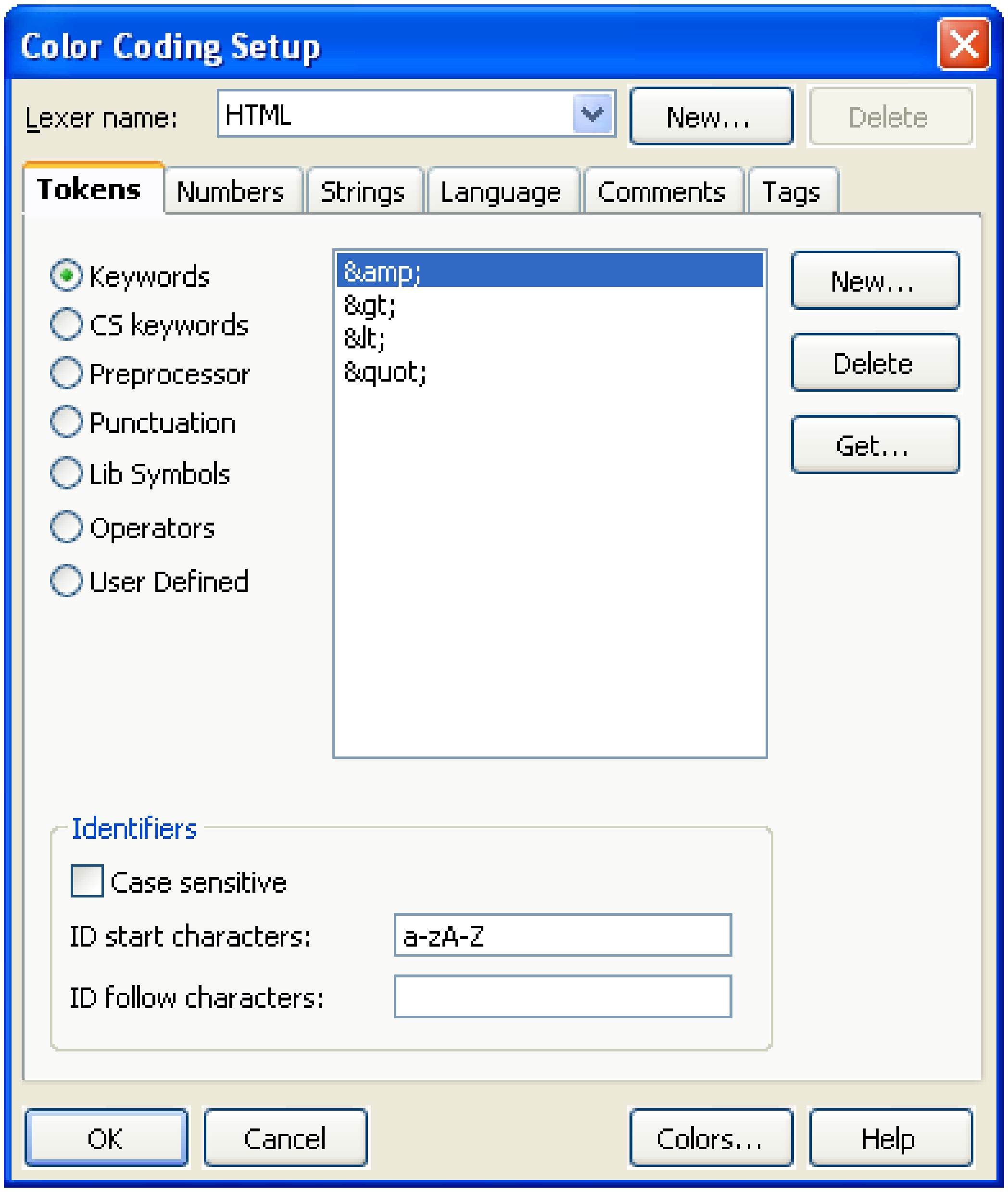
To create color coding support for your language, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting. The Color Coding Setup dialog box is displayed.
2. Select the Tokens Tab, then click **New**. The Enter New Keywords dialog box is displayed.
3. Enter the new lexer name. Usually this is a language name such as C or Java. Click **OK**.
4. On the **Tokens** tab, make sure the new keyword is selected, then correct the **ID start characters**. These are valid characters which can be the start of an identifier.
5. Correct the **ID follow characters**. These are additional characters which are valid after the start ID character. For example, digits are usually allowed in identifiers, but not as the first character of an identifier.
6. Select the Comments Tab. This lists the comments currently defined and allows you to define new multi-line and line comments. For each comment, click **New** to add a line or multi-line comment.
7. Select the Numbers Tab to display various numeric style options.
8. Select the Strings Tab to display various string literal options.
9. If you have not found all the options you need, click the Language Tab. This displays some more advanced language-specific options.
10. Click **OK** on the Color Coding Setup dialog box.

Color Coding Configuration

The Color Coding Setup dialog provides the capability to specify colors for identifying your code. To configure color coding, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting. The Color Coding Setup box is displayed.

Figure 6.17. Color Coding Setup: Tokens Tab



Lexer name: HTML

[✓ Keywords] CS keywords Preprocessor Punctuation Lib Symbols Operators User Defined

&amp;
&gt;
&lt;
&quot;

Identifiers

☐ Case sensitive

ID start characters: a-zA-Z

ID follow characters:

Select the language that you wish to work with from the **Lexer name** drop-down list.

Click **New** to prompt for a lexer name to start a new language-specific color coding definition (see Creating Color Coding for a New Language).

Click **Colors** at the bottom of the dialog to display the Color Settings dialog, which allows you to specify the color for color coding elements and other editor elements (see Setting Colors for Screen Elements).

The tabs on the Color Coding Setup dialog are described in the section Color Coding Setup Dialog.

Advanced Color Coding Configuration

The `vslick.vlx` file defines language-specific coloring support. For information about modifying this file, and how to create a new lexer name, see VLX File and Color Coding.

Color Coding Settings

There are several extension-specific settings that can be made to affect Color Coding. To access these options, from the main menu, click **Window** → **Preferences** → **SlickEdit** → **General**, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the extension you wish to work with from the **Extension** drop-down list, then select the Advanced Tab.

Select from the following options:

- **Lexer name** - Specifies which lexer to use to recognize elements to use to be colored.
- **Color Coding** - Displays the Color Coding Setup dialog box allowing modification of language-specific color coding for the current language. For more information, see Color Coding Setup Dialog.
- **Modified lines** - Color-codes the modified lines.
- **Current line** - Color-codes the current line.

Syntax Indent and SmartPaste®

Syntax Indent and SmartPaste are two of the many SlickEdit® features designed to decrease typing, improving your coding efficiency. Syntax Indent automatically indents code to the correct levels. There are two ways that code can be indented: by using the automatic Syntax Indent feature, and/or by using tabs. SmartPaste reindents pasted text to the correct level based on surrounding code.

Syntax Indent

By default, if you press **Enter** while you are editing a source file, Syntax Indent automatically indents the cursor to the next level if it is moved inside a structure block. For example, if you edit a C file and the cursor is on a line containing the text **for (:){** and you press **Enter**, a new line is inserted and the cursor is indented four spaces in from the letter "f" in the word "for".

To change the Syntax Indent spacing, complete the following steps:

1. Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. The Extension Options dialog is displayed.
2. From the **Extension** drop-down list box, select the file extension that you wish to affect.
3. Select the Indent Tab.
4. Change the value in the **Syntax indent** text box.

Indenting with Tabs

By default, when you press the **Tab** key to indent, literal spaces are inserted. If you plan to indent your code using tab characters, or if you will be editing files that already contain tabs, you will need to specify these preferences.

To activate tab indenting, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab. From the **Extension** drop-down list box, select the file extension that you wish to affect. Then select the option **Indent with tabs**.

Setting Tab Spacing

The default value of the **Tab** key is eight spaces. You can change this value in the **Tabs** text box. In general, the **Tabs** setting should match the **Syntax indent** value. For example, by default for the C language extension, the **Syntax indent** value is set to 4, and the **Tabs** setting is set to +4. The plus sign (+) indicates that the editor will automatically expand the stops by four. By default, the **Tabs** setting is "+4", which indicates that the default tab setting is eight spaces.

To work properly with the Sun Java API source code, the tab stops need to be in increments of eight, but the syntax indent must be set to four. The Syntax Indent affects not only the **Tab** key, but also the number of spaces to indent for each code block level.

Note

- When you change the tab stops and indent for all languages except COBOL, change the **Tabs** text box to **+<*value*>** where ***value*** is the same value used for the **Syntax indent** text box. The **Tabs** text box only affects how tab characters are expanded on the screen. This does not affect the indent when pressing **Tab**, or the amount of indent for statements inside a code block.
- For COBOL files, the **Tabs** text box also affects the **Tab** key. Syntax Indent still affects the indent for each code block level.

Setting Tab to Indent Selections

For the **Tab** key to indent the selection when text is selected, select the option **Indent selection when text selected**.

Setting Tabs for the Current File

To set tabs for the current buffer only, use the Tabs dialog box (**Format** → **Tabs** or **gui_tabs** command). You can set tabs in increments or at specific column positions. For example, to specify an increment of three, enter **+3** in the text box. To specify columns, you could enter **1 8 27 44** to specify tab stops that have absolute locations.

By default, the **Tab** key inserts enough spaces to move the text to the next tab stop. The **Shift**+**Tab** key combination deletes enough spaces to move the text to the previous tab stop. See Redefine Common Keys Dialog for information on other **Tab** and **Shift**+**Tab** key bindings. Regardless of the **Tab** key binding, if the extension-specific setting **Indent with tabs** is on, a physical tab character is inserted (see Indenting with Tabs).

Setting the Backspace Unindent Style

By default, pressing the **Backspace** key when the previous character is a tab, causes the rest of the line to be moved to the previous tab stop. If you want your **Backspace** key to delete through tab characters one column at a time, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Redefine Common Keys** setting. Select the **Hack tabs backspace** option. See Redefining Common Keys for more information.

SmartPaste®

When pasting lines of text into a source file, SmartPaste reindents the added lines according to the surrounding code. For example, if editing a C or C++ file, select some lines with a line selection (**Ctrl**+**L**), copy them to the clipboard (**Ctrl**+**C**), then paste them inside a **for** loop block (**Ctrl**+**V**). The added lines are correctly indented according to the **for** loop's indent level. SmartPaste will work for character/stream selections; however, the last line of the selection must include the end-of-line character. Use the mouse to copy and move lines and still take advantage of SmartPaste.

Note

SmartPaste only works with line selections. For information about creating a line selection, see Line Selections.

Completions

Completions save keystrokes as you are typing code by providing a way to automatically complete partially-typed text. There are several types of completions in SlickEdit® Core:

- Auto-Complete - A feature set that includes syntax, keyword, and symbol completions.
- Word Completion - Completions that work for any text in an editor window.
- Command Line Completions - Completions for command line entries.

Auto-Complete

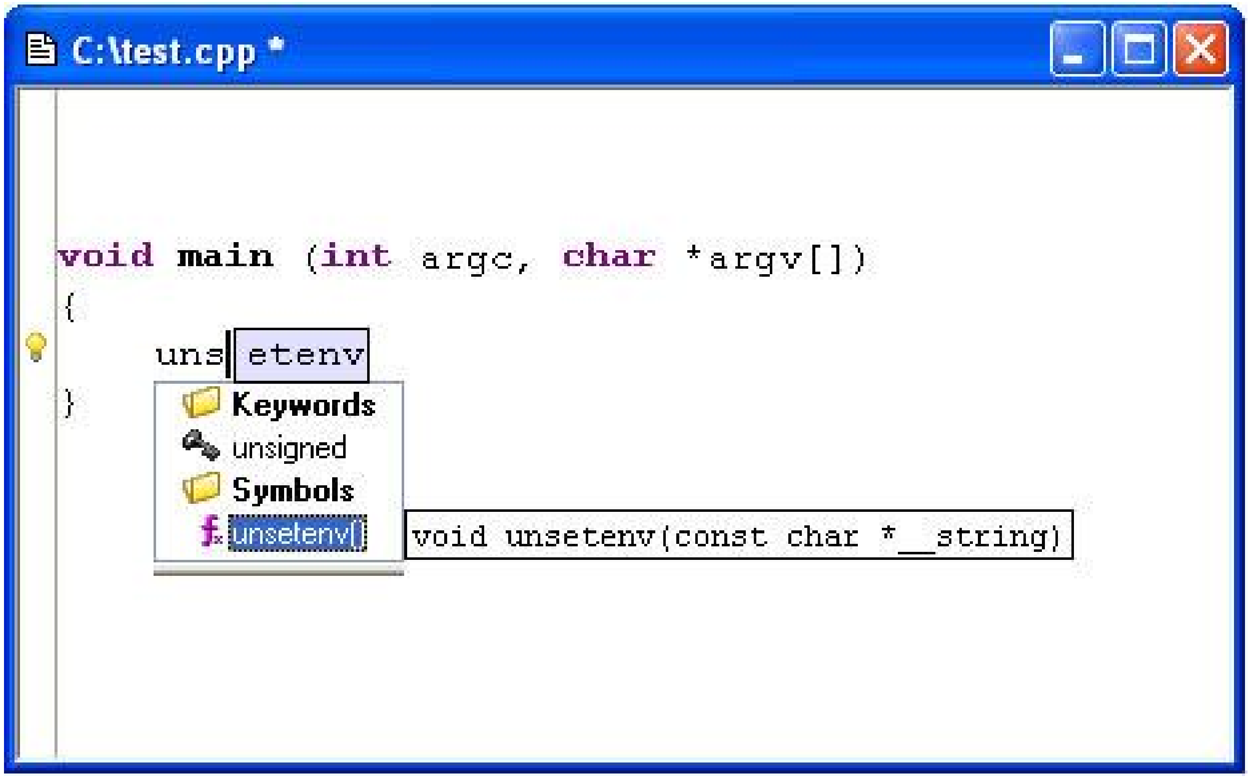
Auto-Complete offers suggestions for how syntax, keywords, symbols, and lines of code may be completed by the editor. It works by looking at the word prefix under the cursor and using several different queries to find and suggest completion options. Each of these types of suggestions can be individually turned on or off, allowing you to customize auto-completion to your liking.

Using Auto-Complete

Auto-Complete is activated when the editor is idle for a short period of time and there is a partially-typed word under the cursor. When Auto-Complete is active, the available completions are indicated in several ways:

- A light bulb appears on the left edge of the editor.
- A list of completions appears under the word being typed.
- The rest of the completed word or statement appears to the right of the cursor.

Figure 6.18. Example of Auto-Complete



```
void main (int argc, char *argv[])
{
    uns|etenv
}
```

```
void unsetenv(const char *__string)
```

These visual hints can also be individually turned on or off through the Auto-Complete options. See Auto-Complete Tab.

Tip

Auto-Complete can be activated manually by using the **autocomplete** command. By default, this command is not bound to a key. Key bindings can be set with the Key Bindings dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Key Bindings** setting). For more information, see Creating Bindings.

To cancel out of Auto-Complete mode, use the **Escape** key.

To scroll through the items in the completion list, use the **Up**, **Down**, **PgUp**, and **PgDn** keys. Optionally, you can use **Tab** and **Shift**+**Tab** to cycle through the choices.

If a completion is selected, you can press **Space**, **Enter**, or any non-identifier key to cause the selected completion to be inserted along with the character typed (except for **Enter**).

Use **Shift**+**Space** to insert a real space rather than the completion. Use **Ctrl**+**Shift**+**Space** to insert the next character of the currently selected completion. This can be useful if you only want part of the word being completed and you do not want to type it yourself. Optionally, pressing **Tab** will cause auto-completion to attempt to insert the longest unique prefix match of all its completions.

If the completion has comments, you can use **Shift**+**PgDn**, **Shift**+**PgUp**, **Shift**+**Home**, or **Shift**+**End** to page through the comments. Use **Ctrl**+**C** to copy the comments for the current item to the clipboard.

Auto-Complete options can be configured for each file extension type. This allows you to activate and deactivate particular features on a per-language basis. To change Auto-Complete options, see Auto-Complete Tab.

Word Completion

Word Completions search the current editor window for text matching the prefix at the current cursor position. Most completions are driven by Context Tagging®, matching symbols such as function names and variables. Word Completions can match any text in the current editor window, including comments.

Auto-Complete also lists word completions, but it is often faster to use key bindings to search for and insert Word Completions. The following is a list of commands for these operations and the key bindings in the CUA emulation. See Creating Bindings to change them.

- **complete_prev** (**Ctrl**+**Shift**+**Comma**) – Searches backwards through the current editor window to find a match.
- **complete_next** (**Ctrl**+**Shift**+**Dot**) – Searches forwards through the current editor window to find a match.
- **complete_more** (**Ctrl**+**Shift**+**Space**) – Adds subsequently more text from the matched line to the cursor position, allowing you to extend the amount of text inserted.

The following example of code shows how word completion is used:

```
if (pWindowView->pBuffer->LineNum>100) {
pW<Cursor is Here>
}
```

Press **Ctrl**+**Shift**+**Comma**,**Ctrl**+**Shift**+**Space**,**Ctrl**+**Shift**+**Space** to obtain the following result:

```
if (pWindowView->pBuffer->LineNum >100) {
pWindowView->pBuffer->LineNum <Cursor is Here>
}
```

Pressing **Ctrl**+**Shift**+**Comma** matched "pWindowView" in the previous line. If you wanted to match an earlier occurrence beginning with "pW", press **Ctrl**+**Shift**+**Comma** to find the next previous match. This also changed "pW" on the second line to the matching text, "pWindowView". Pressing **Ctrl**+**Shift**+**Space** extends that selection, matching "pWindow->pBuffer". Pressing **Ctrl**+**Shift**+**Space**, again, extends the selection to include "pWindow->pBuffer->LineNum".

You can easily see how this would save time typing in multiple lines that access structs, class members, arrays, etc.

Configuring Completion Settings

To configure Auto-Complete settings, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the extension you wish to work with from the **Extension** drop-down list, then select the **Auto-Complete** tab. For a listing of these options and descriptions, see Auto-Complete Tab.

Aliases

Aliases are identifiers that you can quickly type which are then expanded into snippets of text. You can use aliases for commonly typed function names, statements, or to insert several lines of code. There are two types of aliases in SlickEdit® Core:

- Directory Aliases - Directory aliases are short identifiers for long directory names. They save you from having to type long path names when you are prompted for a file name or directory.
- Extension-Specific Aliases - These aliases are set up on a per-language basis, and are useful for inserting frequently used text, such as comment headers, into your code.

Directory Aliases

Directory aliases take advantage of the fact that most users are constantly opening files from a small number of directories throughout the day. By using a directory alias when opening a file or changing directories, you do not have to type in long paths or click the mouse repeatedly in the **Directory** list box.

After typing the alias identifier, directory aliases can be expanded by pressing **Ctrl**+**Space**. These aliases are stored in the file `alias.slk`.

Note

SlickEdit Core doesn't modify Eclipse's file management-related dialogs such as **File** → **Open**, **File** → **Save As**. Therefore, directory aliases are not available in these dialogs.

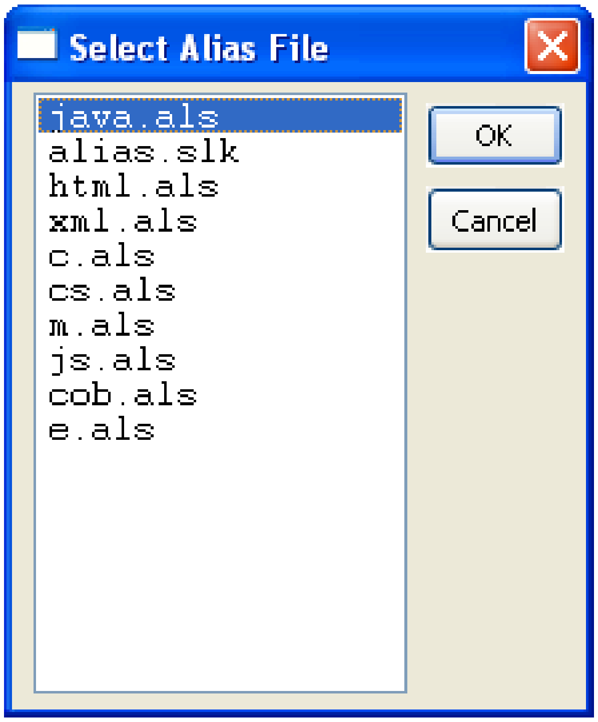
Defining a New Directory Alias

Directory aliases typically consist of a short abbreviation of the last name in a long directory path. For example, if you had a directory called `c:\version20\src\project2\`, a good alias name might be **p2**. For compiler include files, define an alias called **inc** (**vinc** in Microsoft Visual C++, **binc** in C++ Builder®, or **ginc** for GCC) if you have multiple compilers.

To define a new directory alias, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double click the **Alias** setting. The Select Alias File dialog appears.

Figure 6.19. Select Alias File Dialog



2. Select `alias.slk` and click **OK**. The Alias Editor dialog appears.

3. Click **New**, then type the characters you wish to use for an identifier in the **Alias Name** text box.

4. Click **OK**. The identifier you entered is now displayed in the list box in the Alias Editor dialog.

5. Make sure your new identifier is selected, then in the large text box to the right, enter the alias value by typing in the directory path that you want the identifier substituted with.

6. Click **OK**.

Using Directory Aliases

After the directory aliases are defined, you can use them in any text box or buffer, including the command line and fields on the Open and Change Directory dialogs. For example, to open a file from the command line using a directory alias, complete the following steps:

1. On the command line, type **e** (for "edit").

2. Type the alias name (identifier) for the directory where the file resides.

3. Press **Ctrl**+**Space** to expand the alias.

4. Type the name of the file to open.

5. Press **Enter**.

Embedding Environment Variables in Directory Aliases

If you keep source code in a version directory tree, you might want to set an environment variable and embed the environment variable in the alias value. For example, if you have a directory named `c:\version20\src\project2\`, define a **p2** alias and give it a value such as **%VERSION%\src\project2\**. Type the following command on the command line to set or create the **VERSION** environment variable:

```
set VERSION=c:\version20
```

For more information about setting environment variables, see Environment Variables.

Extension-Specific Aliases

You can set up aliases for any frequently used text, such as comment headers. Extension-specific aliases are set up on a per-language basis. Each extension can have one alias file, allowing aliases to be defined that do not affect other extensions.

After typing the alias identifier, extension-specific aliases can be expanded by pressing **Ctrl**+**Space** (**codehelp_complete** command). Extension-specific aliases are stored in a file that you can specify and typically have the extension `.als`.

Tip

- If the alias is a Syntax Expansion modification, you can simply press **Space** to expand the alias. See Syntax Expansion for more information.
- An Auto-Complete option is available to show a tooltip of the matching alias for the word under the cursor. Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the **Extension** from the drop-down list, then select the Auto-Complete Tab and check the option **Alias expansion**. See Completions for more information.

Creating an Extension-Specific Alias

When you define a new alias for a file extension, each time that you open or create a file with that extension, the aliases will be available.

Choosing the Alias File

Before defining a new alias, you must specify the file in which the alias is to be stored. The quickest way to do this is to click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Alias** setting and pick an alias file from the predefined list. After you select the alias file, the Alias Editor dialog appears, allowing you to create the aliases.

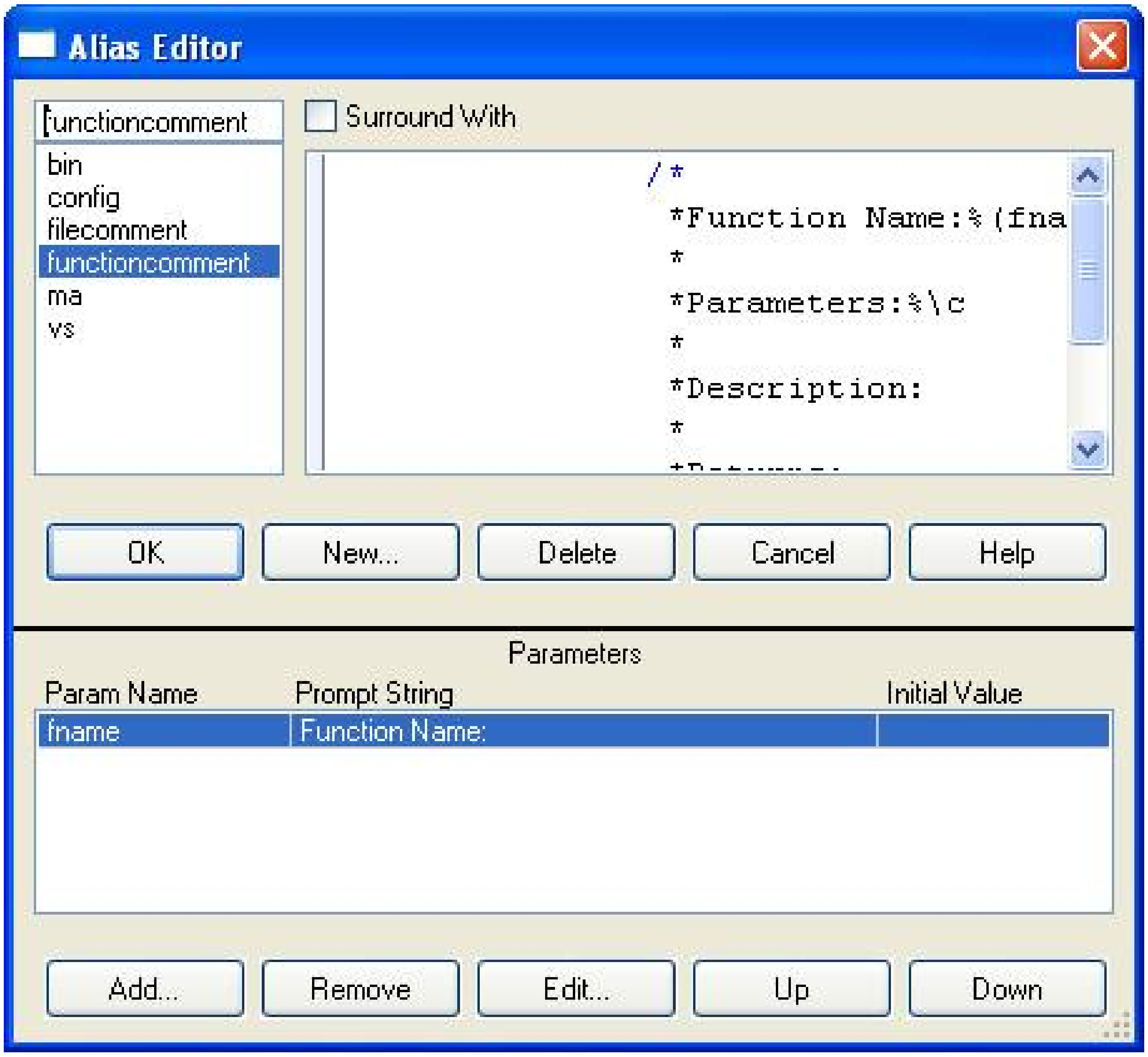
If you wish to specify your own file to store aliases, or if you are using an extension that does not have a predefined file in the list, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. The Extension Options dialog appears.
2. Select the General Tab.
3. In the **Extension** drop-down list, select the file extension that you wish to work with.
4. Note the **Alias file name**. If you wish to store the aliases in another file, type a new file name with the `.als` extension here.
5. Click **Aliases**. The Alias Editor dialog appears.

Using the Alias Editor

After choosing the file used to store aliases, use the Alias Editor dialog to create or edit extension-specific aliases. The dialog is pictured below.

Figure 6.20. Alias Editor Dialog



functioncomment

bin
config
filecomment
functioncomment
ma
vs

```
/*
 *Function Name:%(fna
 *
 *Parameters:%\c
 *
 *Description:
 *
```

Param Name	Prompt String	Initial Value
fname	Function Name:	

Alias names are displayed in the list box at the top left of this dialog box. The value for the selected alias name is displayed in the large text box at the top right of this dialog. Click **Delete** to remove a selected alias and its value.

To create a new alias, complete the following steps:

1. Click **New**, then type the characters you wish to use for an identifier in the **Alias Name** text box.
2. Click **OK**. The identifier you entered is now displayed in the list box in the Alias Editor dialog.
3. Make sure your new identifier is selected, then in the large text box to the right, enter the alias value by typing in the text that you want the identifier substituted with.

Tip

- You can use special escape sequences in your aliases, which will be substituted upon expansion with certain values. See Alias Escape Sequences for more information.
- You can also specify parameters in alias values. When the alias is expanded, you are prompted with a dialog to input the values. See Parameter Prompting for more information.

4. Click **OK**.

Alias Escape Sequences

Alias escape sequences can be used in alias values. When the aliases are expanded, the sequences are replaced with their values. The following table contains a list of the escape sequences that can be used for aliases. For examples, see Escape Sequence Examples below.

Table 6.7. Alias Escape Sequences

Escape Sequence	**Description**
%\c	Places the cursor. This sequence can be used multiple times in the same alias value in order to create a series of "hot spots" within the alias. After the alias is expanded, press **Ctrl**+**[** (**next_hotspot** command) to jump to the next cursor stop.
%\d	Inserts the date (locale-dependent).
%\e	Inserts the date in MMDDYY format.
%\t	Inserts the time (locale-dependent).
%%	Inserts a percent character.
%\f	Inserts the current file name.
%\n	Inserts the current function name.
%\o	Inserts the current function name with signature.
%\i	Indents.
%\b	Unindents.
%\x*ColumnNumber*	Moves the cursor to the specified column number.
%\x+*Increment*	Increment column by ***ddd***.

Escape Sequence	Description
%\x-*Increment*	Decrement column by ***ddd***.
%\s	Preserves trailing spaces - place at the end of a line.
%\l	Preserves leading spaces - place at the beginning of the first alias line.
%(*ParameterName*)	Parameter replacement. See Parameter Prompting.
%\m *MacroName ArgumentList%*	Calls the specified Slick-C® macro with a specified optional argument.
%*EnvironmentVariable*%	Inserts the value of the environment variable specified.
%\m sur_text%	Indicates where the text to be surrounded will be placed. See Dynamic Surround and Surround With for more information.

Escape Sequence Examples

The following table contains some examples of using escape sequences in alias values:

Table 6.8. Escape Sequence Examples

Alias Name and Description	Value
comment - A header comment to have the date and time inserted.	/**/ /* Date: %\d Time: %\t */ /***/

if - A simple **if** statement, with indenting, support for surround, and a cursor position.	if(%\c){
	%\i// Comment goes here
	%\i%\m sur_text%
	}

ifelse - An **if/else** statement with indenting and several cursor hot spots.	if(%\c){
	%\i%\c
	} else {
	%\i%\c
	}

Alias Name and Description	Value

wm - A WinMain function template with indenting and a cursor position.	int APIENTRY WinMain(HANDLE hInstance,
	                    HANDLE hPrevInstance,
	                    LPSTR lpszCmdParam,
	                    int nCmdShow)
	{
	%\i%\c
	}

Parameter Prompting

Parameters can be set up for aliases, so that when the alias is expanded, you are prompted with a dialog to input the values. This is useful for reducing even more key strokes for repetitive tasks when using aliases that may require different values each time they are used.

To use parameter prompting, first define the parameters, then use them in your alias values by typing **%(ParamName)** where ***`ParamName`*** is the name of the parameter that you have defined (see Creating an Alias for Parameter Prompting below). When the alias is used and expanded, the Parameter Entry dialog will appear, prompting you for the parameter values, which will then be inserted into your text.

Creating an Alias for Parameter Prompting

To create an alias for parameter prompting, first select the alias file as described in the section Choosing the Alias File, then use the Alias Editor to complete the following steps:

1. Click **New**, then enter the new alias name. In the aliases list box (on the left side of the Alias Editor), make sure the new alias is selected.
2. Click the **Add** button below the **Parameters** group box. The Enter Alias Parameter dialog is displayed.
3. Enter the following values:
   - **Parameter Name** - Enter the name that you wish to use in the alias value.
   - **Prompt** - Enter the text that you wish to be prompted with. This is the label that will appear on the Parameter Entry dialog that prompts for values after the alias is expanded.
   - **Initial Value** - (Optional) Enter the initial value of the parameter. This text will appear in the text field of the Parameter Entry dialog that prompts for values after the alias is expanded.
4. Click **OK**.
5. If you wish to add more parameters, repeat Steps 2 through 4.
6. On the Alias Editor dialog, the **Parameters** group box will now display a list of the parameters that you have added.

7. In the large text field on the right side of the Alias Editor, you can now type the alias value. In the places where you want parameter prompting to occur, type **%(ParamName)**, where ***`ParamName`*** is the parameter name that you entered in Step 3.

8. Click **OK** when you are finished.

Example: Instantiating a Variable in Java with Parameter Prompting

In Java, instantiating variables can be a repetitive task. The following code shows a common Java code snippet:

```
public class  {
    public static void main (String args[]) {
        String x = new String( arg[0] );
    }
}
```

You could define an alias for entering new class names with variables and arguments. That way, when you press **Enter** after the third line and type and expand the alias, you will be prompted for the values.

For this alias, in the Alias Editor dialog, first define three parameters: **class_name**, **var_name**, and **arg_list**. Then, enter the following text for the alias value:

```
%(class_name) %(var_name) = new %(class_name)( %(arg_list) );
```

Creating an Extension-Specific Alias from a Selection

You can create an extension-specific alias from a selection by following the steps below.

1. Select some code.
2. Right-click and select **Create Alias**.
3. Give the alias a name and click **OK**.
4. The Alias Editor dialog appears, from which you can edit the code to fine-tune, or add parameters.

Syntax Expansion

Syntax Expansion is a feature designed to minimize keystrokes, increasing your code editing efficiency. When you type certain keywords and then press the spacebar, Syntax Expansion inserts a default template that is specifically designed for this statement. For example, if you are using the C language and type **for**, press **Space** and the following text expansion is inserted, with the cursor location between the parentheses:

```
for() {
}
```

Additionally, for C, C#, C++, J#, Java, and Slick-C®, after the statement is expanded, you can use the **next_hotspot** command (**Ctrl**+**[**) to jump the cursor to the next part of the statement. In the case of the **for** loop above, **Ctrl**+**[** would move the cursor from the group in parentheses to the code block.

The structures **loop**, **if**, and **switch** or **case** are also expanded. You do not have to type the entire keyword for Syntax Expansion to occur. If there is more than one keyword that matches what you type, a list of possible keyword matches is displayed. To get the C template displayed above, type **f** followed by pressing **Space**.

To override the insertion of braces immediately for one line **if**, **for**, or **while** statements, type a semicolon immediately after the keyword. For example:

```
if;    =>   if ( <cursor here> ) <next hotspot>;
```

To override non-insertion of braces immediately for **if**, **for**, **while**, **foreach**, **with**, **lock**, **fixed**, and **switch** statements, type an open brace immediately after the keyword. For example:

```
if{    =>   if ( <cursor here> ) { <next hotspot> }
```

If the default behavior of Syntax Expansion does not match your coding style, for most languages, it can be customized. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Select your language extension, then click the **Options** button. For more information on these options, see the topic for your language in the Chapter 7, *Language-Specific Editing* chapter.

For further customization, for most languages, you can override the default keyword expansion by defining an alias for that keyword. See Extension-Specific Aliases for more information.

Syntax Expansion Settings

To access Syntax Expansion settings, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the extension you wish to affect from the **Extension** drop-down list, then select the Indent Tab.

To turn Syntax Expansion on or off, select or deselect the option **Syntax expansion**.

To change the minimum expandable keyword length, enter the value by using the **Minimum expandable keyword length** spin box.

To set options such as brace style, click the **Options** button on the Extension Options dialog.

Tip

SlickEdit® Core can display Syntax Expansion choices for the word prefix under the cursor. To turn this option on/off, select the Auto-Complete Tab on the Extension Options dialog, and select/deselect the **Syntax expansion** option. See Completions for more information.

Modifying Syntax Expansion Templates

Syntax Expansion templates are essentially extension-specific aliases that have been pre-defined. You can modify these templates by replacing them with your own.

For example, to add a comment to the end of C **for**, **while**, **if**, and **switch** statements:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup**. The Extension Options dialog is displayed.
2. From the **Extension** drop-down list, select the **c** extension.
3. Select the General Tab.
4. Click **Aliases** to display the Alias Editor dialog.
5. Click **New** and then type **for** as the alias name.
6. Type the following lines in the text box to the right of the alias name:

   ```
   for (%\c;;) {
   } /* for */
   ```

   The **%\c** escape sequence above specifies the cursor placement after expansion is performed.
7. Repeat Steps 5 and 6 for the **while**, **if**, and **switch** keywords.
8. Click **OK** to save new aliases.

The above steps replace the default Syntax Expansion templates for these keywords. The C brace style options will not affect defined aliases.

For more information on working with aliases, using the Alias Editor, or using alias escape sequences, see Extension-Specific Aliases.

Adding Syntax Expansion for Other Languages

To add syntax expansion and indenting for other languages, complete the following steps:

1. Use the `prg.e` macro as a template. This file is located in the `macros` subdirectory of your installation directory. Make a copy of it and give it another name.
2. Change the #define constants **EXTENSION** and **MODE_NAME** near the top of the file to reflect the new extension and mode name respectively. Do not use any spaces in these constants.
3. Change the name of the first five characters of the _command functions **dbase_mode**, **dbase_enter**, and **dbase_space** to use the value given to the **MODE_NAME** constant in Step 2.
4. Modify the **prg_expand_enter** function to provide the **Enter** key the desired support.
5. Modify the **prg_expand_space** function to provide the **spacebar** key the desired support. If you can rely on extension-specific aliases, follow the comment in this function.
6. Use the load command **Macro** → **Load Module** to load new macro modules.

Steps 4 and 5 require a good understanding of the Slick-C® language and what this specific macro is doing. See the *Slick-C® Macro Programming Guide* for more information.

Dynamic Surround and Surround With

Two SlickEdit® Core features that allow you to surround text with text are Dynamic Surround, which lets you surround existing statements with block statements, and Surround With, which lets you surround any selected text with predefined language structures, or any text that you specify. Unsurround is also available to remove outer code block structures from statements.

Dynamic Surround

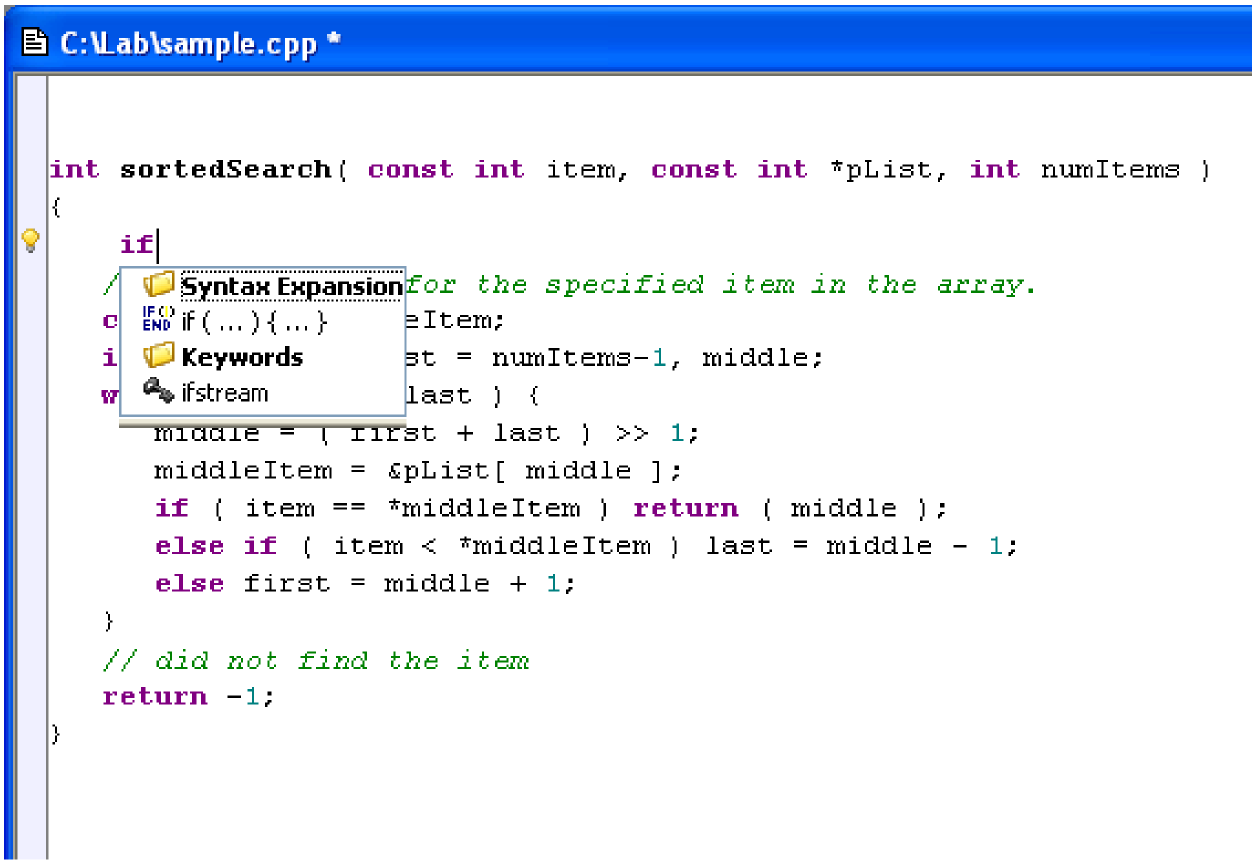
Dynamic Surround provides a convenient way to surround a group of statements with a block statement, indented to the correct levels according to your preferences. This feature works in conjunction with the syntax and alias expansion features (see Syntax Expansion and Extension-Specific Aliases), and is designed to help you keep your hands on the keyboard, thereby improving your speed and efficiency.

Dynamic Surround is supported for any language that uses block statements. Note that this feature is line-oriented and will not work for character or block selections.

SlickEdit® Core enters Dynamic Surround mode automatically, immediately after you expand a block statement (for instance, by typing **if** then pressing **Space**). After expanding the statement, a box is drawn around it as a visual guide, and you can pull the subsequent lines of code or whole statements into the block by using the **Up**, **Down**, **PgUp**, or **PgDn** keys. Pressing any other key or clicking with the mouse will exit Dynamic Surround mode.

The following screen shot shows the Syntax Expansion menu that appears after typing **if** in a C++ file:

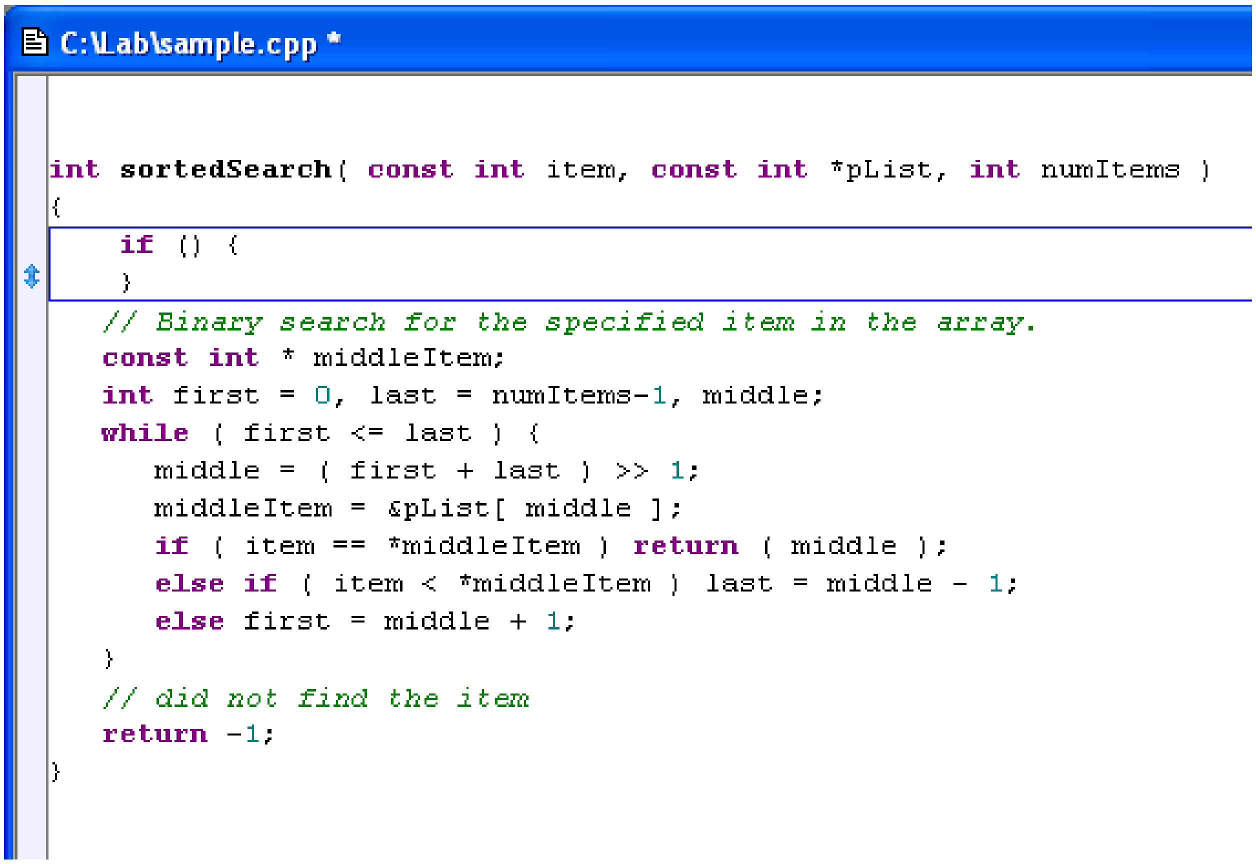
Figure 6.21. Dynamic Surround: Example 1



```
int sortedSearch( const int item, const int *pList, int numItems )
{
    if
    /                for the specified item in the array.
    c                eItem;
    i                st = numItems-1, middle;
    w                last ) {
      middle = ( first + last ) >> 1;
      middleItem = &pList[ middle ];
      if ( item == *middleItem ) return ( middle );
      else if ( item < *middleItem ) last = middle - 1;
      else first = middle + 1;
    }
    // did not find the item
    return -1;
}
```

After pressing **Space** to expand the template, Dynamic Surround is activated, with a blue rectangle drawn around the expanded statement, as shown below:

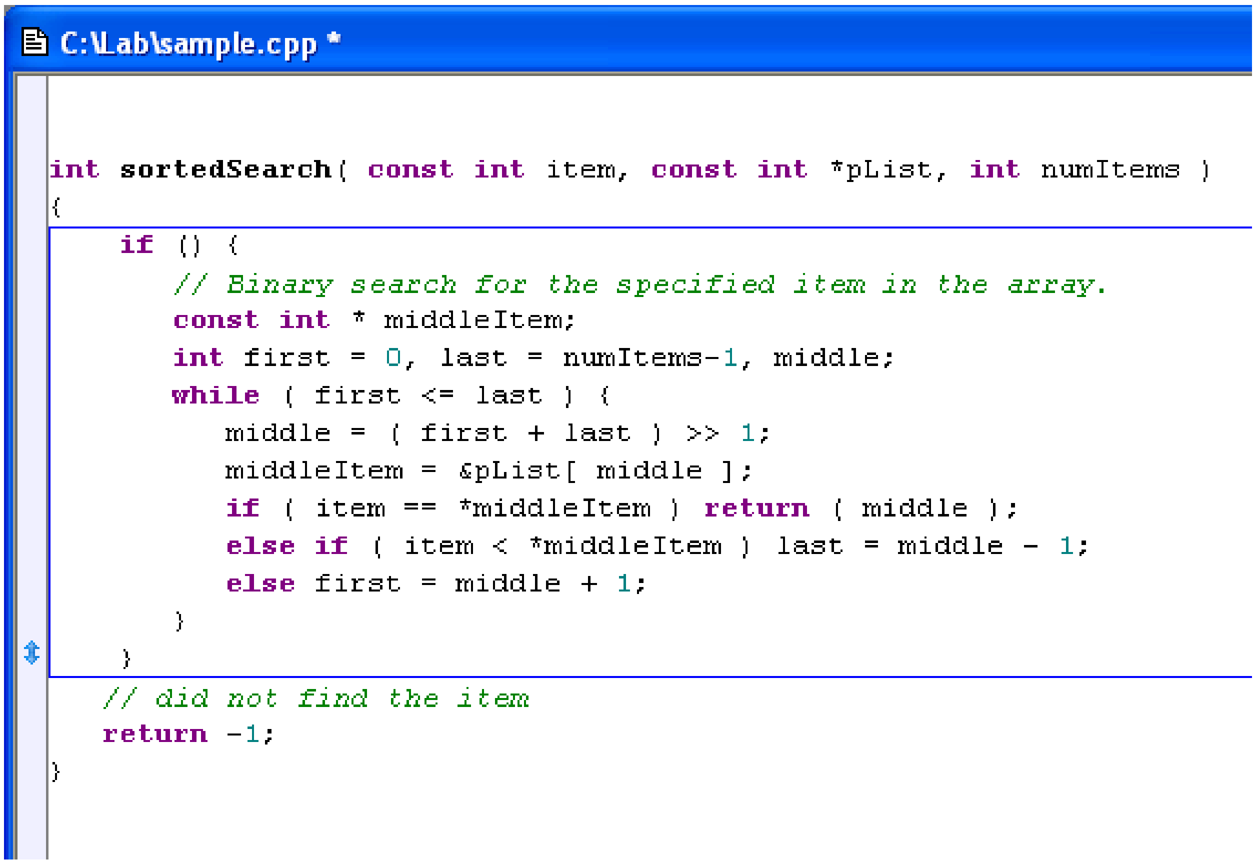
Figure 6.22. Dynamic Surround: Example 2



```
int sortedSearch( const int item, const int *pList, int numItems )
{
     if () {
     }
    // Binary search for the specified item in the array.
    const int * middleItem;
    int first = 0, last = numItems-1, middle;
    while ( first <= last ) {
        middle = ( first + last ) >> 1;
        middleItem = &pList[ middle ];
        if ( item == *middleItem ) return ( middle );
        else if ( item < *middleItem ) last = middle - 1;
        else first = middle + 1;
    }
    // did not find the item
    return -1;
}
```

Pressing the **Down** arrow key pulls the code block into the statement, indented to the correct levels, as shown below:

Figure 6.23. Dynamic Surround: Example 3

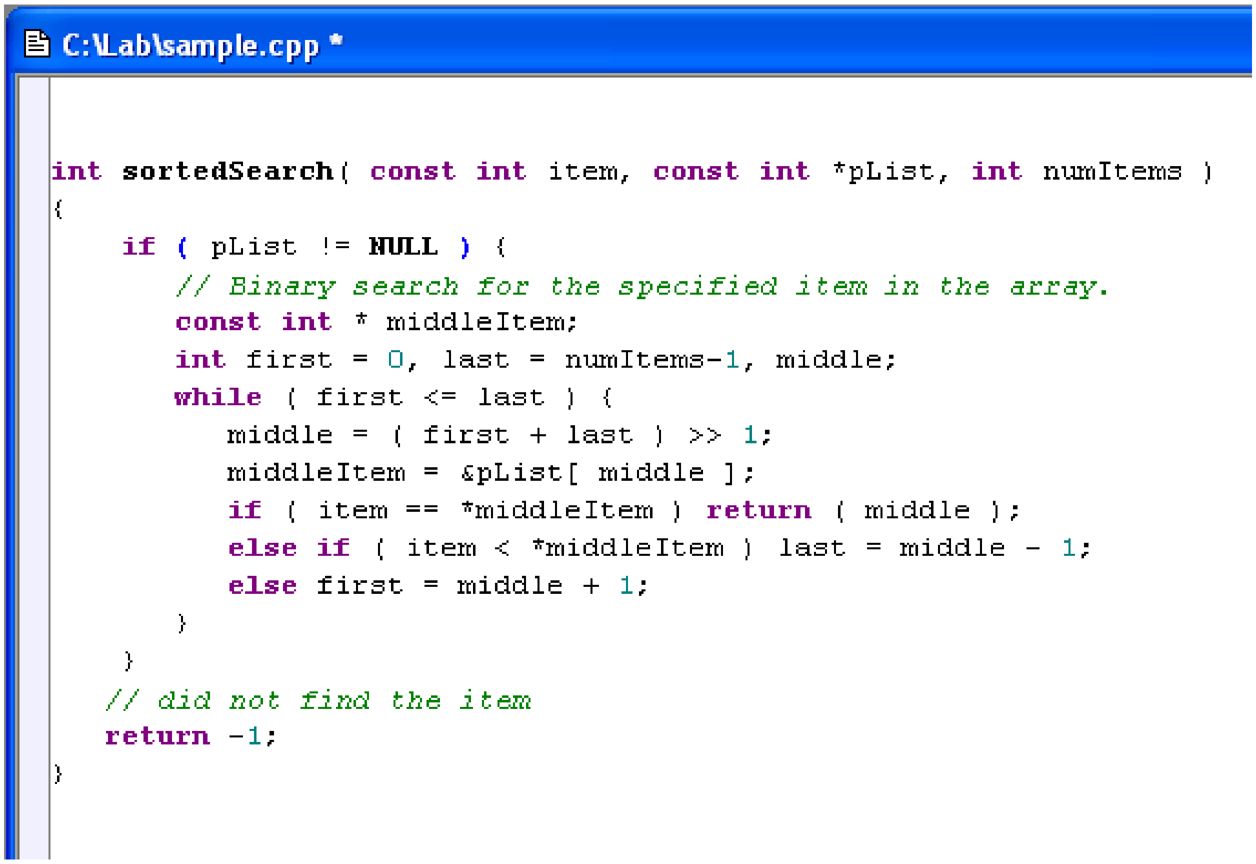


C:\Lab\sample.cpp *

```
int sortedSearch( const int item, const int *pList, int numItems )
{
    if () {
        // Binary search for the specified item in the array.
        const int * middleItem;
        int first = 0, last = numItems-1, middle;
        while ( first <= last ) {
            middle = ( first + last ) >> 1;
            middleItem = &pList[ middle ];
            if ( item == *middleItem ) return ( middle );
            else if ( item < *middleItem ) last = middle - 1;
            else first = middle + 1;
        }
    }
   // did not find the item
   return -1;
}
```

The finished code is shown as follows:

Figure 6.24. Dynamic Surround: Example 4


C:\Lab\sample.cpp *

```
int sortedSearch( const int item, const int *pList, int numItems )
{
    if ( pList != NULL ) {
       // Binary search for the specified item in the array.
       const int * middleItem;
       int first = 0, last = numItems-1, middle;
       while ( first <= last ) {
          middle = ( first + last ) >> 1;
          middleItem = &pList[ middle ];
          if ( item == *middleItem ) return ( middle );
          else if ( item < *middleItem ) last = middle - 1;
          else first = middle + 1;
       }
    }
   // did not find the item
   return -1;
}
```

Statements that are pulled into the block are indented according to your settings on the Indent Tab of the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). The color of the rectangle box guide is controlled by the **Block Matching** screen element on the Color Settings dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting). See Syntax Indent for more information on setting indent styles, and Colors for more information on changing the colors of screen elements.

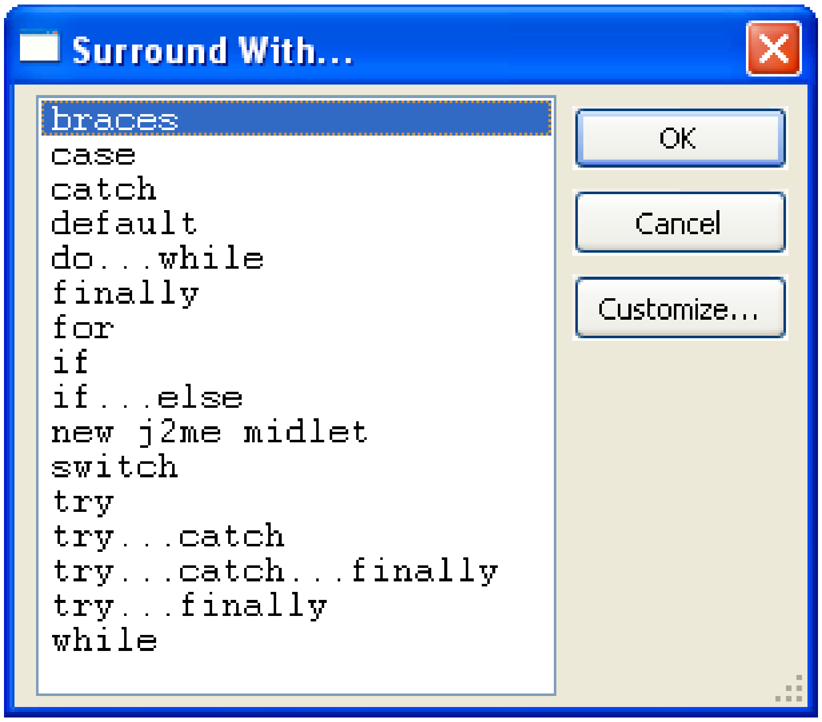
Syntax Expansion must be on for Dynamic Surround to work. Both options are on by default. To turn off either of these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose your extension from the **Extension** drop-down list, then select the Indent Tab. Deselect the option(s) **Use Dynamic Surround** and/or **Syntax expansion**.

If you need to move or modify existing text, you can manually enter Dynamic Surround mode by using the **dynamic_surround** command. This will cause the code block under the cursor to be selected, and you can use the navigation keys as described above to pull in statements. By default, this command is not associated with a key binding. See Creating Bindings for information on creating your own.

Surround With

Surround With makes it fast and easy to wrap existing lines of code in a new block structure. Surround With is supported for the languages C, C++, C#, HTML, Java, JavaScript, and XML. Highlight the lines to surround, right-click, and select **Surround Selection With**, or use the **surround_with** command. The Surround With dialog appears, with a pre-defined list of structures based on the current file extension.

Figure 6.25. Surround With Dialog



```
braces
case
catch
default
do...while
finally
for
if
if...else
new j2me midlet
switch
try
try...catch
try...catch...finally
try...finally
while
```

Select the structure you wish to surround with, then click **OK**.

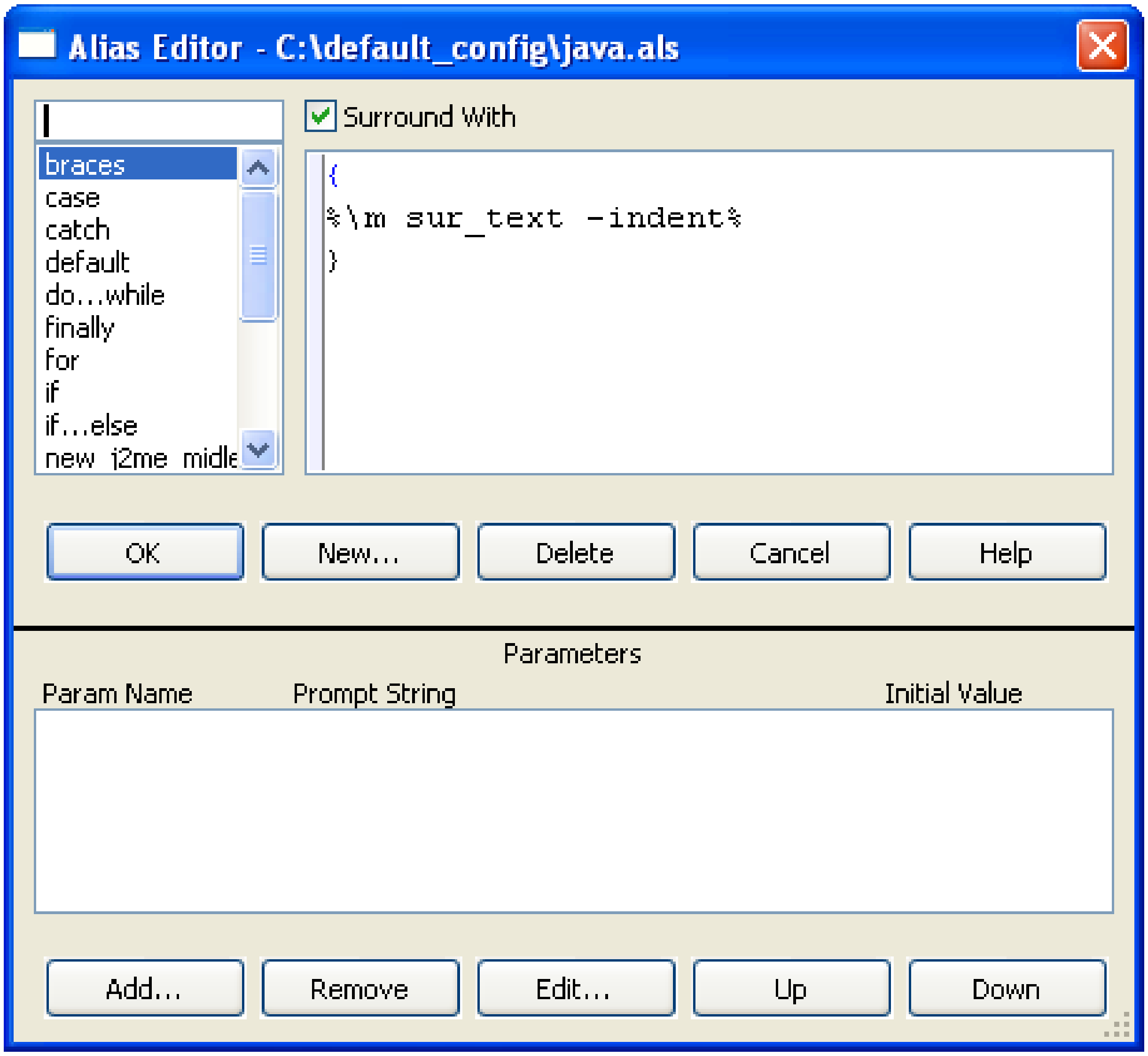
If there is no selection and you activate Surround With, the current line or code block will be automatically highlighted for surrounding (the same function performed by the **select_code_block** command).

Modifying Surround With Templates

Surround With templates are created and modified the same way as other aliases, with the addition of the **%\m sur_text%** escape sequence. This sequence indicates where the selected text should be placed, and can be used multiple times within a single Surround With template. See Surround With Commands for more information on **sur_text**.

To view or modify the Surround With templates, use the **surround_with** command to display the Surround With dialog, then click the **Customize** button. This will display the Alias Editor dialog with the **Surround With** option selected. The list of Surround With structures for the chosen language is shown in the list box on the left.

Figure 6.26. Alias Editor Dialog for Surround With



```
{
%\m sur_text -indent%
}
```

To modify one of the Surround With structures, complete the following steps:

1. Select the structure that you wish to modify. Notice the template for the structure that appears in the text box on the right side of the Alias Editor.
2. Modify the template to suit your needs. For a list of escape sequences and template examples, see Alias Escape Sequences. For more information about using the Alias Editor, see Creating an Extension-Specific Alias.
3. When you are finished, click **OK** on the Alias Editor dialog.
4. Click **OK** on the Surround With dialog.

Surround With Commands

There are three commands available for working with Surround With:

- **surround_with** - This command is used to display the Surround With dialog, allowing you to pick a structure to surround selected text with. This command can be bound to a key—see Creating Bindings for more information.
- **sur_text** - This is a Slick-C® function that can only be used inside of a Surround With template. It is used to indicate where the selected text should be placed and can be used multiple times within a single Surround With template. **sur_text** can take several parameters, which can appear in any order. The available parameters are:
  - **-beautify** - This is the default for C, Java, and others. It beautifies the results of the template expansion.
  - **-begin <*text*>** - Prefixes each line of the selection with ***text***.
  - **-deselect** - This is the default parameter. It specifies to leave the text deselected.
  - **-end <*text*>** - Suffixes each line of the selection with *text*.
  - **-ignore <*chars*>** - The **-begin**, **-indent**, and **-stripbegin** options will ignore any ***chars*** when finding the beginning of the selected line.
  - **-indent** - Indents each line of the selection.
  - **-nobeautify** - This is the default for HTML, XML, and others. It specifies that the editor should not attempt to beautify the results of the template expansion.
  - **-notext** - Specifies that no text should be pasted.
  - **-select** - Leaves the text selected.
  - **-stripbegin <*text*>** - If any line begins with ***text***, ***text*** is removed from the line. This option is applied before **-begin**.
  - **-stripend <*text*>** - If any line ends with ***text***, ***text*** is removed from the line. This option is applied before **-end**.
- **surround_with_if** - This is a wrapper command that expands the **if** template for the selected text. This command can be bound to a key—see Creating Bindings for more information.

The use of Surround With can be streamlined by using wrapper commands and key bindings. You can create your own wrapper commands. The following example is the definition of **surround_with_if _command void surround_with_if() name_info(',':**

```
VSARG2_REQUIRES_EDITORCTL | VSARG2_MARK | VSARG2_REQUIRES_AB_SELECTION)
{
   surround_with('if');
}
```

You must change the name of the command and the argument passed to **surround_with**. The argument does not have to be an exact match with the template name. For instance, calling **surround_with('i')** will prompt you to select the **if**, **if...else**, or **include once** template. If there is an exact match, that template will be used. In the case of **surround_with_if**, "if" matches the beginning of both the **if** and **if...else** templates, but the **if** template is used because it is an exact match.

After you create your wrapper command, you can bind it a key or invoke it from the command line.

For more information on working with commands, see the *Slick-C® Macro Programming Guide*.

Unsurround

Unsurround is a feature that lets you remove the surrounding text from a code block. This is particularly effective when used with Dynamic Surround. Unsurround is supported for the following languages: ActionScript, AWK, C#, C++, CFML, HTML, Java, JavaScript, Perl, PHP, Slick-C ®, Tcl, and XML.

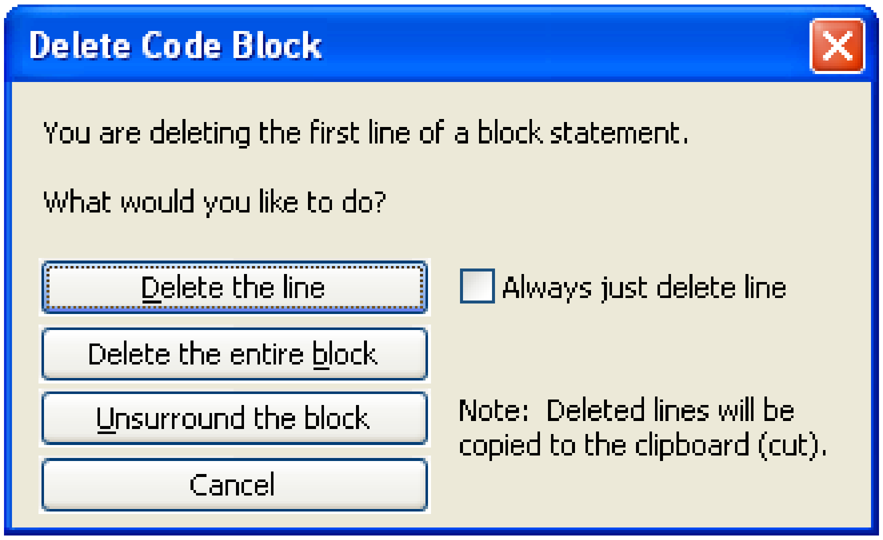
To use Unsurround, right-click on a selected code block and select **Unsurround**, or use the **unsurround** command.

For example, to remove the **if** statement structure from a code block, select the code block or part of the code block, then right-click and select **Unsurround** (or use the **unsurround** command). The entire code block under the cursor is automatically highlighted and a dialog prompt appears to confirm the unsurround operation. Click **OK**, and the **if** line of the code block as well as the line containing the closing brace are removed. The remaining code is unindented to the correct level.

Deleting Code Blocks

Unsurround is also associated with the **cut_line** (**Ctrl**+**Backspace**) and **delete_line** (**Ctrl**+**Del**) commands. When one of these commands is invoked while the cursor is on the first line of a block statement, the Delete Code Block dialog appears, from which you can choose to delete the line, delete the entire block, or unsurround the block.

Figure 6.27. Delete Code Block Dialog


Delete Code Block

You are deleting the first line of a block statement.

What would you like to do?

Note: Deleted lines will be copied to the clipboard (cut).

Each of these operations copies the removed text to the clipboard. This is useful if you want to paste the structure into a different location, because as soon as the text is pasted, SlickEdit® Core enters Dynamic Surround mode, allowing you to pull statements into the pasted block.

The Delete Code Block dialog also contains an option to **Always just delete line** when **cut_line** or **delete_line** operations are invoked. Selecting this option will prevent the dialog from appearing when these operations are used. To see the dialog again, use the **cut_code_block** command.

Bookmarks

Bookmarks are used to save the current edit location, so you can quickly return to it later. There are two types of bookmarks:

- Named Bookmarks - Used to mark long-term, meaningful locations in the code, or to quickly set a temporary, named bookmark on the current line.
- Pushed Bookmarks - Used to set temporary "breadcrumbs" as you explore the code.

Named Bookmarks

There are various ways to use named bookmarks:

- **Give them a specific name** - This is the best way to mark long-term, meaningful locations in the code. For example, you could set a bookmark named "main" to save the location of the **main** function.
- **Allow automatic naming** - This is the quickest way to set temporary, named bookmarks if you don't care to spend the time naming them yourself.
- **Use a key binding shortcut for the name** - Bookmarks can be named according to a specific key binding. For example, you could bind **Ctrl**+**1** so that it instantly sets a bookmark named "1".

Bookmarks can be set through a variety of methods, depending on which way you want to use them. A green **Bookmark** bitmap, displayed in the left margin of the editor window, indicates a set bookmark.

Naming Bookmarks

To set a bookmark on the current line and give it a name, click **Search** → **Set Bookmark** (**set_bookmark** command). The Bookmarks dialog is displayed. Type the name of the bookmark in the combo box, then click **Add**.

Command Line Shortcut - sb

Power programmers may prefer to use the **sb** command, which is a shortcut for **set_bookmark**. You can append **sb** or **set_bookmark** with any character or text string, and the bookmark will be instantly set using the value for the name. For example, **sb 1** will allow you to create an instant bookmark named "1", and **sb main** will let you create an instant bookmark named "main". See also Command Line Shortcut - gb.

Allowing Automatic Naming

If you want to quickly set a named bookmark, and you would prefer the editor to automatically name them for you, press **Ctrl**+**Shift**+**J**, or click **Search** → **Toggle Bookmark** (**toggle_bookmark** command). This command also instantly toggles the new named bookmark on/off.

When a bookmark is set in this manner, the name is automatically generated and appears in the Eclipse Bookmarks view in one of two formats: *SymbolName*:*LineNumber*, or *FileName*:*LineNumber*. The symbol name is used if the bookmark is inside of a symbol. The file name is used if there is no symbol on the line or if the file does not support Context Tagging®.

Using a Key Binding for the Name

You can set a bookmark that takes its name from the key used to set it. There are two commands that can be used: **alt_bookmark**, for setting a bookmark, and **alt_gtbookmark**, for navigating to the bookmark.

The purpose of these commands is so that you can bind them to keys, providing a way for you to have one type of keyboard shortcut for setting the bookmarks, naming them in the process, and another for navigating to the bookmarks. These commands can be bound to any of the following keys/ranges:

- **Ctrl+***0-9*, **Ctrl+***A-Z*, **Ctrl+***F1-F12*
- **Alt+***0-9*, **Alt+***A-Z*, **Alt+***F1-F12*
- **Ctrl**+**Alt**+*0-9*, **Ctrl**+**Alt**+*A-Z*, **Ctrl**+**Alt**+*F1-F12*
- **Shift+***F1-F12*

For example, you could bind **alt_bookmark** to **Ctrl+***0-9* and **alt_gtbookmark** to **Alt+***0-9*, for a more efficient means of setting bookmarks named *0-9*, and navigating back to them.

Navigating Named Bookmarks

To navigate between the set bookmarks, use the **prev_bookmark** and **next_bookmark** commands.

Command Line Shortcut - gb

Power programmers may prefer to use the **gb** command, a shortcut for **goto_bookmark**. This will display the Go to Bookmark dialog, from which you can select a specific bookmark to navigate to. Append **gb** with the name value to go directly to that named bookmark. For example, if you set a bookmark named "1" (for instance, by using the command **sb 1**), type **gb 1** to navigate back to that location. See also Command Line Shortcut - sb.

Deleting Named Bookmarks

To remove a named bookmark, when the cursor is on the bookmark line, press **Ctrl**+**Shift**+**J** (or use the **toggle_bookmark** command) to toggle the bookmark off. To remove all named bookmarks at once, use the **clear_bookmarks** command.

Alternatively, the Bookmarks View contains options for deleting named bookmarks.

Bookmarks View

The bookmark functionality in SlickEdit Core integrates with the Eclipse Bookmarks view. This view shows a list of bookmarks that have been set, with each bookmark's name, file location, and line number.

To open the Bookmarks view, click **Window** → **Show View** → **Other**, expand **General** and double-click **Bookmarks**. See "Bookmarks view" in the Eclipse online Help for more information.

Pushed Bookmarks

Pushed bookmarks are stored on a stack. New bookmarks can be pushed onto the stack, preserving the current location. Popping the stack removes the top bookmark and navigates the cursor to the location of the previous bookmark. Pushed bookmarks do not have names and cannot be manipulated on the Bookmarks view.

Pushing a Bookmark

To push a bookmark for the current line, click **Search** → **Push Bookmark** or use the **push_bookmark** command. Additionally, you can use the key binding **Ctrl**+**Dot** (**push_tag** command) to move the cursor from a symbol to its definition, or **Ctrl**+**/** (**push_ref** command) to navigate from a symbol to its reference, pushing a bookmark in the process. Pushing a bookmark will place the current line on the *bookmark stack*. A bookmark stack is simply an internal list of pushed bookmarks.

Note

By default, **push_bookmark** is not bound to a key. Key bindings can be set with the Key Bindings dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Key Bindings** setting). For more information, see Creating Bindings.

Popping a Bookmark

Popping a bookmark will "pop back," or return to, the location of the top bookmark pushed on the bookmark stack, removing the bookmark in the process. To pop a bookmark, press **Ctrl**+**Comma**. You can also use the menu item **Search** → **Pop Bookmark** or the **pop_bookmark** command.

Note

If the option **Automatically close visited files** is selected in the General Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the General Tab), the file will be closed if it is unmodified and the bookmark was created through symbol navigation. See Symbol Navigation for more information.

Viewing Pushed Bookmarks

Pushed bookmarks do not appear in the Bookmarks view, and by default, no visual indicator is displayed in the editor window. To display a visual indicator, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click on the **General** setting. Select the Search Tab, then select the option **Show pushed bookmarks**. This will display a blue **Bookmark** bitmap in the left margin of the editor window for each new pushed bookmark.

Setting Bookmark Options

Most bookmark options are located on the Search Tab of the General Options dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting). See Search Tab for a listing of the available options.

Another option is available by setting a macro variable. SlickEdit® Core can push a bookmark whenever you jump to the top or bottom of the buffer (**Ctrl**+**Home**/**Ctrl**+**End**, or **top_of_buffer**/**bottom_of_buffer** commands, respectively). This is convenient, for example, in C++: if you jump to the top of the buffer to add a #include statement, a bookmark is pushed, so you can use **Ctrl**+**Comma** (**pop_bookmark command)** to get back to your previous position. To use this option, click **Macro** → **Set Macro Variable**, and in the **Variable** combo box, select or type **def_top_bottom_push_bookmark**, then click **OK**. To turn off this option off, unset the variable by changing the **Value** to 0.

Setting Breakpoints

The quickest way to set or clear a breakpoint is to press **F9**. This toggles the breakpoint for the current line.

The breakpoints functionality in SlickEdit® Core integrates with the Eclipse Breakpoints view. This view displays a list of breakpoints and lets you easily add, remove, and activate them. To display the Breakpoints view, click **Window** → **Show View** → **Other**, expand **Debug** and double-click **Breakpoints**. See "Breakpoints view" in the Eclipse online Help for more information.

Setting Conditional Breakpoints

For help on setting conditional breakpoints, see the Eclipse Help on "Managing conditional breakpoints".

Setting Java Exception Breakpoints

For help on setting Java Exception breakpoints, see the Eclipse Help section "Add Java Exception Breakpoint".

Commenting

SlickEdit® Core makes commenting your code easy. You can comment out selected text, or type the start characters for a new doc comment and have the doc comment skeleton automatically expanded. SlickEdit Core also makes your comments easier to read by automatically wrapping them as you type. Existing comments can be "reflowed" to match current comment wrap settings.

Commenting Blocks and Lines

Existing text in your code can be commented out (or uncommented) as follows:

- To comment out a selected code block, from the main menu, click **Format** → **Comment Block** (or use the **box** command). This comments out the entire selection as a single block comment by surrounding the block with comment characters you have specified in your comment settings.
- To comment out selected lines, from the main menu, click **Format** → **Comment Lines** (or use the **comment** command). Each line in the selection is commented out as a single line comment. If there is no selection, the current line is commented out. If using a block selection where there are partially selected lines, comment characters are placed at the beginning and end of the selection. If using a character selection where there are partially selected lines, comment characters are placed based on your settings. The comment characters that are placed to the left and right of the text are also specified in your comment settings.
- To uncomment lines in a selection, from the main menu, click **Format** → **Uncomment Line** (or use the **comment_erase** command). Surrounding line comment characters are removed from the line. If there is no active selection, the current line will be uncommented. Uncomment Line only works for well-formed comments, which means that every line in the selection is commented and that the comment characters occur in the same column.

Whether you are creating a comment block or a comment line, if the selected text already contains comments, another set of comment characters is added. SlickEdit® Core attempts to preserve the indentation level of the code and any existing comments when adding or removing comment characters.

Comment Block and Line Settings

To specify the characters and other settings used for comment blocks and lines, from the main menu, click **Format** → **Comment Setup** (or use the **comment_setup** command). The Extension Options dialog is displayed open to the Comments Tab. Select the extension you wish to affect from the **Extension** drop-down list.

The **Comment block** group box provides eight fields to specify the characters used in your commenting style. If you want to apply a comment with no additional decoration, fill in the upper-left and lower-right fields with the characters to begin and end a block comment. To draw a box around the comment, fill in additional characters in the other fields. For example, you might put an asterisk in each of the other fields to draw a box of asterisks around the block comment.

The **Comment line** group box contains fields for you to specify the characters to be inserted at left and right sides of a line comment.

For code examples and descriptions of the other available options, see Comments Tab.

Creating Doc Comments

Doc comments are specially formatted comments that are processed by tools that extract and present the information in a formatted manner. Doc comments follow a predefined structure, based on the programming language and the tool processing the comments.

SlickEdit® Core supports the most common doc comment formats (Javadoc, XMLdoc, and Doxygen). When you type the start characters for one of these comment formats and press **Enter** on a line directly above a function, class, or variable, SlickEdit Core can automatically insert a skeleton doc comment for that style.

Note

In C#, you do not need to press **Enter**, as the skeleton comment is inserted after you type the third slash.

To activate and configure automatic completion of doc comment skeletons, complete the following steps:

1. From the main menu, click **Format** → **Comment Setup** (or use the **comment_setup** command). The Extension Options dialog is displayed, open to the Comments Tab.
2. Select the extension you want to affect from the **Extension** drop-down list.
3. In the **Doc comments** box, check the option **Automatically expand doc comments**.
4. In the **For start characters** box, select the start characters for the doc comment style you plan to use for the selected extension. These are the characters that you type that will trigger automatic completion of the doc comment skeleton. For comments formatted in Javadoc, select **/****. For XMLdoc, select **///**. For Doxygen, select **/*!** or **//!**.
5. In the **Use style** box, select the tag style to use for the corresponding start characters that you selected in Step 4. This tag style is used when SlickEdit Core creates skeleton doc comments beginning with the matching start characters. Comments formatted in Javadoc usually use the **@param** style. XMLdoc uses the **<param>** style. Doxygen can read the **\param** style.

Tip

You can repeat Steps 4 and 5 to assign a style for each start character set, and the setting will be remembered.

6. Click **OK** on the Extension Options dialog.

Doc Comment Examples

Javadoc Format

To use the Javadoc commenting format, select the start characters **/**** and use style **@param**. Check **Insert leading ***. Using the following code sample:

```
/**[CURSOR_HERE]*/
int setDimensions(int length, int width, int height) {
  ...
}
```

Pressing **Enter** at the "cursor here" location results in the following automatic completion:

```
/**
 * [CURSOR_HERE]
 *
 * @param length
 * @param width
 * @param height
 *
 * @return int
*/
int setDimensions(int length, int width, int height) {
  ...
}
```

XMLdoc Format

To use the XMLdoc comment format, select the start characters **///** and the **<param>** style. Using the following code sample:

```
///[CURSOR_HERE]
int setDimensions(int length, int width, int height) {
  ...
}
```

Pressing **Enter** at the "cursor here" location results in the following automatic completion:

```
/// <summary>
/// [CURSOR_HERE]
/// </summary>
/// <param name="length"></param>
/// <param name="width"></param>
/// <param name="height"></param>
/// <returns>int</returns>
int setDimensions(int length, int width, int height) {
  ...
}
```

Doxygen Format

To use a Doxygen comment format, select the start characters **/*!** or **//!** (based on your preference) and the **\param** style. Using the following code sample:

```
/*![CURSOR_HERE]*/
int setDimensions(int length, int width, int height) {
  ...
}
```

Pressing **Enter** at the "cursor here" location results in the following automatic completion:

```
/*!
 * [CURSOR_HERE]
 *
 * \param length
 * \param width
 * \param height
 *
 * \return int
 */
int setDimensions(int length, int width, int height) {
  ...
}
```

String Editing

When the cursor is inside of a string, if you press **Enter** to split the line, SlickEdit® Core can automatically align the string with the original string as well as insert the closing and opening quotes and, if necessary, operators. To set this option, click **Format** → **Comment Setup** (**comment_setup** command). The Extension Options dialog is displayed, open to the Comments Tab. Select the extension you wish to affect from the **Extension** drop-down list, then select **Split strings on Enter**.

Comment Wrapping

Comments can be set to automatically wrap to the next line as you type. This feature is available for C, C++, C#, Java, and Slick-C® files.

To activate comment wrapping, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General**, then double-click the **File Extension Setup** setting. Select the extension you want to affect from the **Extension** drop-down list, then select the **Comment Wrap** tab. Check the option **Enable comment wrap**, then select the type of comments you want wrapped (block comments, line comments, and/or doc comments).

The **Comment Wrap** tab also provides options to control how comments are wrapped. There are three types of width settings:

- **Fixed** - Comments will be formatted to a specified width.
- **Automatic** - Comments will be formatted according to the width of existing comments.
- **Fixed right margin** - Lines will break before a specified number of columns has been reached.

For more details on comment wrapping configuration, see Comment Wrap Tab.

Reflowing Comments

After configuring comment wrap settings, you can use the Reflow Comment dialog to reflow block comments, paragraphs, or a selection of the current file. To display this dialog, click **Format** → **Reflow Comment**. For more information on the available options, see Reflow Comment Dialog.

Find and Replace

SlickEdit® Core provides several different ways to search and replace:

- For the fastest method of searching and replacing, use Quick Search and Replace .
- To find and replace text "on the fly," or, as you type, use Incremental Searching.
- If you are more comfortable with keystrokes, you may prefer command line searching with Find and Replace Commands.
- Use the Find and Replace View if you prefer working within an interface.
- To search for symbols, use the Find Symbol View.

Both the Find and Replace view and command line searching provide the same search and replace options for single or multiple files, and for searching and replacing text, wildcards and regular expressions, so you can choose which method works best for you.

This section also includes the topics Find and Replace with Regular Expressions and Undoing/Redoing Replacements.

Quick Search and Replace

Quick Search

The fastest way to search is by using Quick Search. Quick Search looks through the current buffer for the word or selection at the cursor. You can find the next occurrence of a search item by selecting a string in an existing buffer or SlickEdit Core Search view, then selecting **Quick Search** from the right-click menu (or by using the **quick_search** command). The commands **find_next** (**Ctrl**+**G**) and **find_prev** (**Ctrl**+**Shift**+**G**) will find the next and previous instances of the item, respectively.

Quick Replace

Quick Replace gets the current word or selection at the cursor, prompts for replacement text on the command line, then highlights each occurrence of the word and prompts if you want to replace the text.

To use Quick Replace, right-click on any word or selection and select **Quick Replace** (or use the **quick_replace** command).

The **quick_replace** command has a command line alias, **qr**. The **qr** command takes the replace string as an argument. For example, if the cursor is on the word "cat," the command **qr dog** will prompt you to replace all the instances of "cat" with "dog" in the current buffer.

Incremental Searching

During incremental searching, a string is searched for as it is typed. To start a forward incremental search using the command line, use the **i_search** command (**Ctrl**+**I**). To start a reverse incremental search, use the **reverse_i_search** command (**Ctrl**+**Shift**+**I**).

The following key combinations (based on the default CUA emulation) take on a different definition during an incremental search:

Table 6.9. Incremental Search Key

Keys	Function
Ctrl+**R**	Search in reverse for the next occurrence of the search string.
Ctrl+**S**	Search forward for the next occurrence of the search string.
Ctrl+**T**	Toggle regular expression pattern matching on/off.
Ctrl+**W**	Toggle word searching on and off. To change the word characters for a specific extension, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose your extension from the **Extension** drop-down list, then select the Advanced Tab.
Ctrl+**Shift**+**W**	Copy complete word at cursor to search string.
Ctrl+**C**	Toggle case sensitivity. The key bound to the Brief emulation command **case_toggle** will also toggle the case sensitivity.
Ctrl+**M**	Toggle searching within selection.
Ctrl+**O**	Toggle incremental search mode.
Ctrl+**Q**	Quote the next character typed.
Ctrl+**S** or **F5**	(Brief emulation) Search forward for the next occurrence of the search string.
Ctrl+**R** or **Alt**+**F5**	(Brief emulation) Search in reverse for the next occurrence of the search string.
Ctrl+**W**	(GNU Emacs emulation) Copy complete word at cursor to search string.

Keys	Function
Ctrl+**Shift**+**W**	(GNU Emacs emulation) Toggle word searching on and off.

Incremental searching stops when you press a key that does not insert a character. You can press **Esc** to terminate an incremental search (only during prompting). Press and hold **Ctrl**+**Alt**+**Shift** to terminate a long search.

You can retrieve your previous search string by invoking the **i_search** or **reverse_i_search** command and pressing **Ctrl**+**S** or **Ctrl**+**R**, respectively, before entering a search string.

Find and Replace Commands

Find and Slash (/) Commands

The command line is available for performing searches. You can use the forward slash (**/**) or **find** commands which provide the same functionality as the Find and Replace view. Press **Esc** to toggle the cursor to the command line.

The syntax of the slash (**/**) command is:

***/string*[*/OptionCharacters*]**

The syntax of the **find** command is:

find */string/*[*OptionCharacters*]

OptionCharacters is one or more of the following option characters:

Table 6.10. OptionCharacters for find and Slash (/) Commands

Option	Description
E	Exact case.
I	Ignore case.
-	Reverse search.
M	Limit search to selection.
<	If found, place cursor at beginning of word.
>	If found, place cursor at end of word.

Option	Description
R	Interpret search string as a SlickEdit® regular expression.
U	Interpret search string as UNIX regular expression.
B	Interpret string as a Brief regular expression.
N	Do not interpret search string as a regular expression.
P	Wrap to beginning/end when string not found.
W	Limit search to words. Used to search for variables.
W=SlickEdit-regular-expression	Specifies the valid characters in a word. The default value is [A-Za-z0-9_$]. To change the word characters for a specific extension, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Select your extension from the **Extension** drop-down list, then select the Advanced Tab.
W:P	Limit search to word prefix. For example, a search for “pre” matches “pre” and “prefix” but not “supreme” or “supre”.
W:PS	Limit search to strict word prefix. For example, a search for “pre” matches “prefix” but not “pre,” “supreme” or “supre”.
W:S	Limit search to word suffix. For example, a search for “fix” matches “fix” and “suffix” but not “fixit”.
W:SS	Limit search to strict word suffix. For example, a search for “fix” matches “suffix” but not “fix” or “fixit”.
H	Allow finding search string in hidden lines.
Y	Binary search. This allows start positions in the middle of a DBCS or UTF-8 character. This option is useful when editing binary files (in SBCS/DBCS mode) which may contain characters which look like DBCS but are not. For example, if you search for the character “a”, it will not be found as the second

Option	Description
	character of a DBCS sequence unless this option is specified.
, (Comma)	Delimiter to separate ambiguous options.
X*CCLetters*	Requires the first character of search string NOT be one of the color coding elements specified. For example, ***XCS*** requires that the first character not be in a comment or string. ***CCLetters*** is a string of one or more of the following color coding element letters: • **O** - Other • **K** - Keyword • **N** - Number • **S** - String • **C** - Comment • **P** - Preprocessing • **L** - Line number • **1** - Symbol 1 • **2** - Symbol 2 • **3** - Symbol 3 • **4** - Symbol 4 • **F** - Function color • **V** - No save line • **A** - Attribute
C*CCLetters*	Requires the first character of search string to be one of the color coding elements specified. See ***CCLetters*** above.
#	Highlight matched patterns with highlight color. The buffer is not automatically cleared when executing a new search, like it is with the Find and Replace view.

Option	Description
*****	Used with the “Search hidden text” (**H**) or “Highlight matches” (**#**) options to find all matches and un-hide or highlight them.
&	Use Wildcard regular expression syntax (*, ?).
#	Highlight matched patterns with highlight color.
V	(Replace commands only) Preserve case. When specified, each occurrence found is checked for all lowercase, all uppercase, first word capitalized, or mixed case. The replace string is converted to the same case as the occurrence found except when the occurrence found is mixed case (possibly multiple capitalized words). In this case, the replace string is used without modification.
$	(Replace commands only) Replaced occurrences are highlighted with modified color.

To set default search options, see Search Tab.

If the ***** option is not specified, you will be prompted with the message `Yes/No/Last/Go/Quit/Suspend?` for each occurrence of the "Search for" string.

Replace and c Commands

The replace commands, **replace** and **c**, can be used in the command line. The syntax of these commands is:

c/*`string1`*/*`string2`*[/*`options`*]

or

replace/*`string1`*/*`string2`*[/*`options`*]

The available options are the same as for the **find** and slash(**/**) commands (see Find and Slash (/) Commands above).

You can perform one of the following actions with the replace command (**c**) by pressing the corresponding key:

Table 6.11. Replace Key

Key	Action
Y or **Space**	Make change and continue searching.
N or **Backspace**	No change and continue searching.
L or **Dot**	Make change and stop searching.
G or **!**	Make change and change the rest without prompting.
Q or **Esc**	Exit command. By default, the cursor is NOT restored to its original position. If you want the cursor restored to its original position, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. Select the Search Tab. Select the **Restore cursor after replace** option.
Ctrl+**G**	Exit command and restore cursor to its original position.
Ctrl+**R**	Search in reverse for next occurrence of search string.
Ctrl+**S**	Search forward for next occurrence of search string.
Ctrl+**T**	Toggle regular expression pattern matching on/off. The key bound to the Brief emulation command **re_toggle** will also toggle regular expression pattern matching.
Ctrl+**W**	Toggle word searching on/off. To change the word characters for a specific extension, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Select your extension from the **Extension** drop-down list, then select the Advanced Tab.
Ctrl+**C**	Toggle case-sensitivity. The key bound to the Brief emulation command **case_toggle** will also toggle the case-sensitivity.
Ctrl+**M**	Toggle searching within selection.
F1 or **?**	Display Help on Find and Replace view.

Key	Action

Replace Command Search Examples

The table below provides examples of using command line replace.

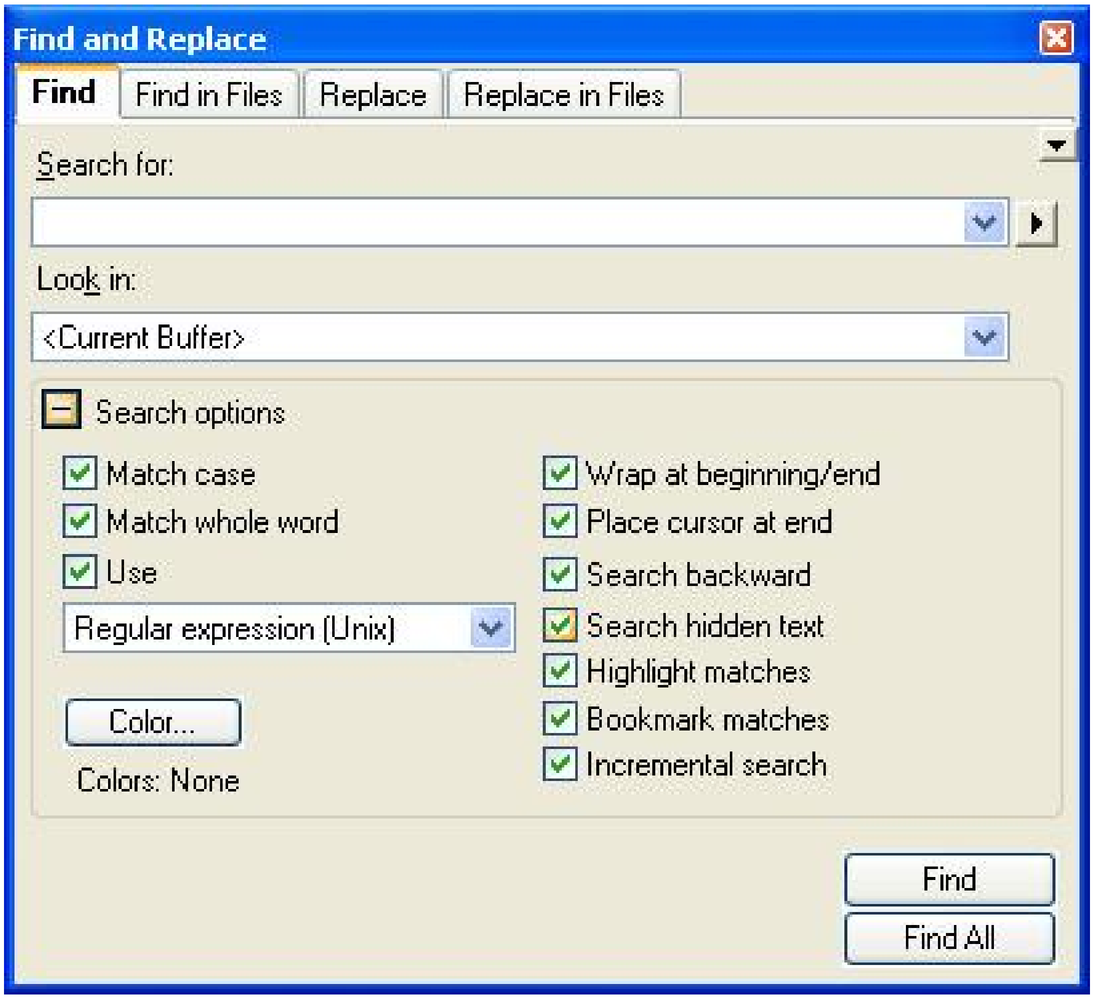
Table 6.12. Replace Command Search Examples

Example	Description
c $/$\$	Replace occurrences of forward slashes with back slashes.
c/x/y/m	Replace occurrences of "x" in the selected area with "y" using default search case sensitivity.
c $x$y$m	Replace occurrences of "x" in the selected area with "y" using default search case sensitivity. The string delimiter "$" has been used requiring a space character after the "c."
c/x/y/e*	Replace lowercase occurrences of "x" with "y" without prompting.
c/i/something_more_meaningful/w	Replace occurrences of the variable "i" with "something_more_meaningful."
c/i/j/w=[A-Za-z]	Replace occurrences of the word "i" with "j" and specify valid characters in a word to be alphabetic characters.
replace/Test/TEMP/v	Replace occurrences of the word "test" with the word "temp", with the case preserved. For example: • Occurrences of "Test" are replaced with "Temp". • Occurrences of "test" are replaced with "temp". • Occurrences of "tesT" are replaced with "TEMP" (because a mixed case will retain the actual replacement that you typed). • Occurrences of "TEST" are replaced with "TEMP".

Find and Replace View

You can use the Find and Replace view (**Ctrl**+**F** or **Search** → **SlickEdit Search/Replace**) to specify search and replace options and conduct search and replace operations on selections, single files, or multiple files.

Figure 6.28. Find and Replace View



Find and Replace

Find | Find in Files | Replace | Replace in Files

Search for:

Look in: <Current Buffer>

Search options

- [✓] Match case
- [✓] Match whole word
- [✓] Use: Regular expression (Unix)
- [✓] Wrap at beginning/end
- [✓] Place cursor at end
- [✓] Search backward
- [✓] Search hidden text
- [✓] Highlight matches
- [✓] Bookmark matches
- [✓] Incremental search

Color...

Colors: None

Find

Find All

Saving Search and Replace Values

When the Find and Replace view is invoked, the options that were used for your last search are displayed, providing a way to repeat the last search. Options also persist when switching between the tabs. Pressing **F7** and **F8** retrieves previous and next responses, respectively.

Search and replace values can be saved as named operations. Saving preserves the values of all of the fields in the Find and Replace view so that the search and/or replace operation can be repeated in the future with the same results. To save the search/replace, right-click in the Find and Replace view. Select **Saved Search Expressions**, then select **Save Search Expression** from the submenu. You will be prompted to name the operation. To access a saved operation, select **Saved List** from the submenu, then pick the saved operation to load.

Syntax-Driven Searching

To reduce the number of false positives in your searches, you can restrict the search based on program syntax. Click the **Color** button on the **Find** tab of the Find and Replace view to specify the syntactic elements for filtering. Each check box has three states:

- **Neutral (the default)** - All check boxes start in the neutral state. These elements will be used in a search until deselected or until one or more other elements are selected. Putting a check in any checkbox essentially deselects all non-checked boxes.
- **Selected** - If the check box is selected, the search will be restricted to this element and any other selected elements. There is no need to deselect any other elements if any elements are selected. If any elements are selected, only selected elements will be searched. For example, to search for the word "result" only in comments, put a check only in the **Comment** check box. All other syntactic elements will be ignored as part of this search.
- **Deselected** - If the check box is clear, these elements will not be searched. For example, if you want to find the word "result" anywhere in your code except for in comments, clear the **Comment** check box.

Setting Options

Options for individual search and replace operations are located on the Find and Replace view. Alternatively, you can set default options that are always used instead. To set the default options, right-click on the background of the view window and select **Configure Options**. The default search options will always be used when the Find and Replace view is invoked, unless settings are changed on the Find and Replace view. If you change settings on the view window and want to use the default options instead, right-click in the view window and select **Use Default Options**. For information on each option on the Find and Replace view, see Find and Replace View. For a listing of the default search options, see Search Tab.

Search Results Output

You can specify that multi-file search results are displayed in a new editor window or in a new SlickEdit Core Search view.

To send the results to a new editor window, select the **Find in Files** tab, click the **Result options** button to expand the options, then select **Output to editor window**.

To send the results of a multi-file search to a specific SlickEdit Core Search view, select the **Find in Files** tab, click the **Results options** button to expand the options, then use the **Search Results Window** drop-down list to select the window to be used. These are labeled starting at **Search<0>**. A new results view window can be added with the **<New>** option up to a pre-set limit of open SlickEdit Core Search views.

If **<Auto Increment>** is selected from the **Search Results Window** drop-down list, the search results will cycle through all of the open Search Results tabs in the SlickEdit Core Search view with each new search. For example, if you have Search<0>, Search<1>, and Search<2> open, then for each search operation, the results will be displayed in this order: Search<0>, Search<1>, Search<2>, Search<0>, Search<1>, and so on. If you only have one SlickEdit Core Search view open, then all results will go into the only open search view windows. You can open and close search results view windows by right-clicking on the **Search Results** tab in the SlickEdit Core Search view.

Right-click in the SlickEdit Core Search view to access more options. See Find in Files Tab for more information.

Find Symbol View

The Find Symbol view (**Search** → **Find Symbol**) is used to locate symbols in your code. It allows you to search for symbols by name using either a regular expression, substring, or fast prefix match.

Searching for a symbol is faster than a normal text search because it is executed against the Context Tagging® database, rather than searching through your source files. Find Symbol also avoids false hits in comments or string literals. Though Syntax-Driven Searching in the regular Find and Replace View provides this same capability, it cannot match the speed of Find Symbol.

See Find Symbol View for information about the options that are available.

Find and Replace with Regular Expressions

Sometimes searching for a string literal is too limiting. For instance, you cannot search for a quoted string, a blank line, a word starting at the beginning of a line, or two words separated by any number of spaces. A regular expression can describe these search strings and many more.

All search commands support regular expressions. The Find and Replace view contains options for turning on regular expression searching (see Find and Replace View). The key binding **Ctrl**+**T** toggles regular expression searching on/off while an incremental search is in progress (see Incremental Searching). The search commands slash (**/**) and **find** take **R** and **U** options to interpret the search string as a regular expression (see Find and Slash (/) Commands). The search and replace command **c** also takes **R**, **U**, and **B** options to specify a regular expression (see Replace Command Search Examples).

SlickEdit® Core supports four types of syntax:

- UNIX (see UNIX Regular Expressions
- SlickEdit (see SlickEdit Regular Expressions)
- Brief (see Brief Regular Expressions)
- Wildcards (*, ?)

All syntax types have the same features. In order to accomplish this, we have made several enhancements to the UNIX and Brief syntaxes. To select the regular expression syntax, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **General** setting, then select the Search Tab. Select the option **Regular expression**, then pick the syntax from the drop-down list.

Special Characters in Regular Expression Find/Replace

Characters have special meaning during search and replace operations.

- **UNIX regular expressions** - When regular expressions are turned on for a search and replace command, the backslash character (****) has special meaning in the replace string. A backslash in the replace string has the same meaning as in the search string except that **\c** and **\:char** are not supported. See UNIX Regular Expressions for a list of backslash (****) options. See Using Tagged Search Expressions for information on specifying tagged expressions in the replace string.
- **SlickEdit® regular expressions** - When regular expressions are turned on for a search and replace command, the number sign character (**#**) and backslash (****) have special meaning in the replace string. A backslash in the replace string has the same meaning as in the search string except that **\c**, **:char**, and **\gd** are not supported. See SlickEdit Regular Expressions for a list of backslash (****) options. See Using Tagged Search Expressions for information on specifying tagged expressions in the replace string using the number sign (**#**) character.
- **Brief regular expressions** - When regular expressions are turned on for a search and replace command, the backslash character (****) has special meaning in that backslash in the replace string has the same meaning as in the search string except that **\c** and **\:char** are not supported. See Brief Regular Expressions for a list of backslash (****) options. See Using Tagged Search Expressions for information on specifying tagged expressions in the replace string.

The following table contains some examples of replace operations using regular expressions:

Table 6.13. Examples of Replacing Using Regular Expressions

Example	Description
Search For: **hat$** Replace With: **cat**	Search for occurrences of the string "hat" that occur at the end of a line and replace it with "cat".
UNIX and SlickEdit® regular expression: Search For: **^\n** Replace With: **Brief regular expression:** Search For: **<\n** Replace With:	Delete blank lines.
UNIX and SlickEdit regular expression: Search For: **^\n\n** Replace With: **\n** **Brief regular expression:** Search For: **<\n\n** Replace With: **\n**	Replace occurrences of two consecutive blank lines with one.
UNIX regular expression: Search for: **^a+$**	Search for lines containing "a" and replace the "a" with a formfeed character.

Example	Description
Replace with: **\d12** **SlickEdit regular expression:** Search for: **^a+$** Replace with: **\12** **Brief regular expression:** Search for: **<a+$** Replace with: **\d12**	

Using Expressions to Search for Binary Characters

Search for a sequence of binary characters by using regular expressions to specify hex or decimal characters. Some examples are:

- **UNIX or Brief search expressions:**
  \x0d\x0a\x01\x02
  \d13\d10\d1\d2
- **SlickEdit® search expressions:**
  \x0d\x0a\x01\x02
  \13\10\1\2

Using Tagged Search Expressions

When you use regular expressions to search for a string, you will often want the replace string to depend on what was found. Use tagged search expressions to insert parts of what is found into the replace string.

- **UNIX regular expressions** - Use parentheses **( )** to denote a tagged expression in the search string. The replace string specifies tagged expressions with a backslash (****) followed by a tag group number 1-9. Count the left parenthesis **(** in the search string to determine a tagged expression number. The first tagged expression is **\1** and the last is **\0**.
- **SlickEdit® regular expressions** - Use curly braces **{ }** to denote a tagged expression in the search string. The replace string specifies tagged expressions with a **#** followed by a tagged expression number 0-9. Count the left braces **{** in the search string to determine a tagged expression number. The first tagged expression is **#0**.
- **Brief regular expressions** - Use curly braces **{ }** to denote a tagged expression in the search string. The replace string specifies tagged expressions with a backslash (****) followed by a tagged expression number 0-9. Count the left braces **{** in the search string to determine a tagged expression number. The first tagged expression is **\0**.

The following table contains examples of using tagged search expressions:

Table 6.14. Examples of Tagged Search Expressions

Example	Description
UNIX regular expression: Search for: **(if|while)** Replace with: **x\1y\2** **SlickEdit® regular expression:** Search for: **{if|while}** Replace with: **x#0y#1** **Brief regular expression:** Search for: **{{if}|while}}** Replace with: **x\0y\1**	Replace occurrences of "if" and "while" with "xify" and "xwhiley." Unmatched groups are null. Note: The UNIX syntax **\2** (SlickEdit syntax **#1**, Brief syntax **\1**) is replaced with null.
UNIX regular expression: Search for: **^(.*?),(.*)$** Replace with: **\2,\1** **SlickEdit regular expression:** Search for: **^{?*},{?*}$** Replace with: **#1,#0** **Brief regular expression:** Search for: **^{*},{*}$** Replace with: **\1,\0**	Reverse text on lines containing a comma. Lines with "abc,def" will be changed to "def,abc." Notice that the UNIX regular expression search string uses a minimal matching operator ***?** so that the comma actually matches the first comma in the line and not the last.

Minimal versus Maximal Matching

If you are using tagged expressions or regular expressions to perform a search and replace, you need to understand the difference between the minimal and maximal operators.

Take, for example, a line of text which contains a DOS file name: `\path1\path2\path3\name.ext`.

The regular expression **^\\.*?\\** (UNIX), **^\\?*\\** (SlickEdit®), or **<\\*\\** (Brief) will match the string **\path1\.**

The regular expression **^\\.*\\** (UNIX), **^\\?@\\** (SlickEdit), or **<\\\:*\\** (Brief), which uses the maximal operator, matches the string **\path\path2\path3\.**

As a rule of thumb, you will usually want to use the minimal matching operators ***?** (UNIX), ***** (SlickEdit), or @ (Brief) and **+?** (UNIX), **+** (SlickEdit/Brief) after a less-specific regular expression such as **.** (UNIX) or **?** (SlickEdit/Brief).

You will usually want to use the maximal matching operators after a regular expression which matches something more specific. For example, to search for a string of digits and prefix each string of digits with the character **$**, you would specify the following in the **Replace** tab of the Find and Replace view:

- **UNIX regular expression:**
  Search for: **([0-9]+)**
  Replace with: **$\1**

- **SlickEdit regular expression:**
  Search for: **{[0-9]#}**
  Replace with: **$#0**

- **Brief regular expression:**
  Search for: **{[0-9]\:+}**
  Replace with: **$\0**

If the minimal matching operator (UNIX **+?**, SlickEdit and Brief syntax **+**) was used in the search string instead of the maximal matching operator (UNIX **+**, SlickEdit syntax **#**, Brief syntax **\:**@), the above search and replace would prefix each digit in the file with a "$" character, which is probably not what you want.

Undoing/Redoing Replacements

To undo a replacement, click **Edit** → **Undo**, press **Ctrl**+**Z**, or use the **undo** command. To redo a replacement, click **Edit** → **Redo**, press **Ctrl**+**Y**, or use the **redo** command.

To undo replacements in multiple files, click **Edit** → **Multi-File Undo** or use the **mfundo** command. To redo replacements in multiple files, click **Edit** → **Multi-File Redo** or use the **mfredo** command.

Beautifying Code

Code Beautifiers

Code beautifiers, available for many languages, reformat the layout of existing text based on settings that you specify, such as begin/end styles and indenting.

To beautify selected lines of code, or to beautify the entire buffer, from the main menu, click **Format** → **Beautify** (or use the **gui_beautify** command). A dialog box is displayed with functions specific to the type of project that is active. If an HTML project is active, then the HTML Beautifier dialog appears with options. If a GNU C/C++ project is active, then the C/C++ Beautifier dialog opens, and so on. Beautifying is supported for the languages listed below. Follow the cross-reference links to learn more about working with each beautifier.

- Ada - See Ada Beautifier.
- C/C++, C#, Java, JavaScript, Slick-C® - These beautifiers contain the same options and settings. See C/C++ Beautifier.
- CFML, HTML - These beautifiers contain the same options and settings. See HTML Beautifier.
- Javadoc - See Javadoc Beautifier.
- XML, XSD - These beautifiers contain the same options and settings. See XML Beautifier.

Reflowing Text

To reflow text in the current paragraph according to your margin settings, click **Format** → **Format Paragraph** or use the **reflow_paragraph** command. Margin settings are defined on the Word Wrap Tab (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting).

When you reflow a paragraph, the cursor will be kept at the same location within the current paragraph after reflow has occurred, unless the **Reflow next** option is selected (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the More Tab). If **Reflow next** is selected, the **reflow_paragraph** command places the cursor on the next paragraph after it has reformatted the current paragraph.

Comments can also be reflowed according to the comment wrap settings. See Reflowing Comments for more information.

Refactoring

Refactoring is a precise code editing feature that you can use to clean up and improve the understandability of your source code. Refactoring allows you to make disciplined, system-wide changes to code without affecting the external behavior.

There are two types of refactoring available within SlickEdit® Core: C++ Refactoring and Quick Refactoring. C++ Refactoring supports the C++ language only, while Quick Refactoring supports C++, C#, Java, and Slick-C®. Quick Refactoring is generally faster and less stringent than C++ Refactoring.

For information about refactoring results, see Reviewing Refactoring Changes.

Quick Refactoring

Quick Refactoring supports C++, C#, Java, and Slick-C®, and performs refactorings using Context Tagging® rather than a formal language parser. Quick Refactoring is generally faster and less stringent than C++ Refactoring.

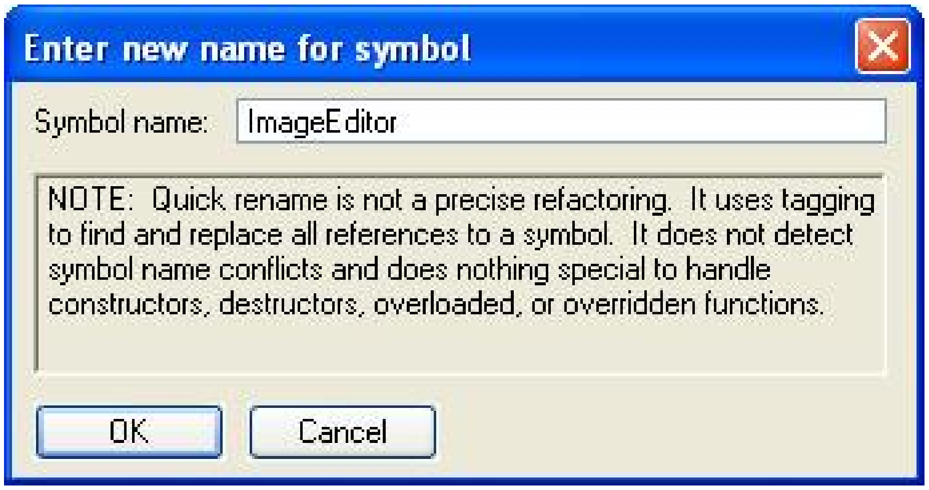
Available Quick Refactorings

To access the Quick Refactorings, use the right-click context menu in the editor and select **Quick Refactoring**. The Quick Refactoring menu can be also be accessed from the right-click menus within the Symbols and Outline views.

Quick Rename

Quick Rename uses the Context Tagging® to rename a symbol under the cursor or any symbol selected in the Outline or Symbols views. This operation works for all tagged languages. It is faster than the rename provided by C++ Refactoring, but less stringent. Quick Rename does not treat renaming classes, constructors, and destructors as a special case. Quick Rename will rename all of the overloads of a function. Quick Rename does not rename overridden methods (in parent and child classes).

Figure 6.29. Quick Rename Refactoring



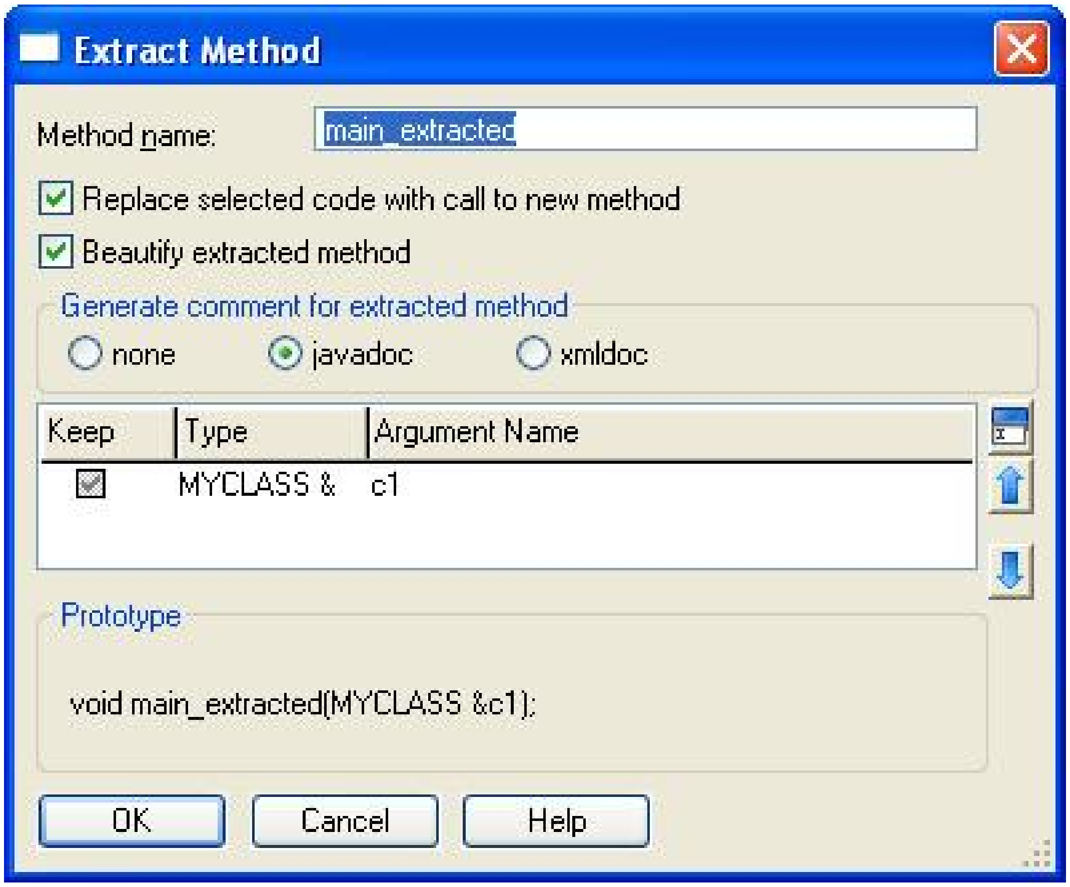
Symbol name: ImageEditor

NOTE: Quick rename is not a precise refactoring. It uses tagging to find and replace all references to a symbol. It does not detect symbol name conflicts and does nothing special to handle constructors, destructors, overloaded, or overridden functions.

Quick Extract Method

After selecting a set of lines, Quick Extract Method creates a new method with the selected lines as the body. It discovers any undeclared variables and creates them as parameters to the new method. The extracted method is created in the same scope as the original method. Quick Extract Method is only available for C++, C#, Java, and Slick-C®.

Figure 6.30. Quick Extract Method Refactoring



void main_extracted(MYCLASS &c1);

Quick Modify Parameter List

This refactoring allows you to add, delete, and re-order parameters for a selected function. The refactoring will modify the parameter list for the selected function and all of its counterparts within the class hierarchy. Quick Modify Parameter List is only available for C++, C#, Java, and Slick-C®.

Quick Replace Literal with Constant

Replaces the selected literal with a constant, replacing use of the literal with the new constant. Quick Replace Literal with Constant is only available for C++, C#, Java, and Slick-C®.

C++ Refactoring

You can apply many commonly used refactorings in C++.

Note

C++ Refactoring is not supported for Objective-C or Objective C++. While Objective-C is closely related to C++, the refactoring engine cannot accommodate the syntactic differences.

Available C++ Refactorings

To access the C++ refactorings, from the main menu, click **C/C++ Refactoring**. The C++ Refactoring menu can be also be accessed from the right-click menus within the Symbols and Outline views.

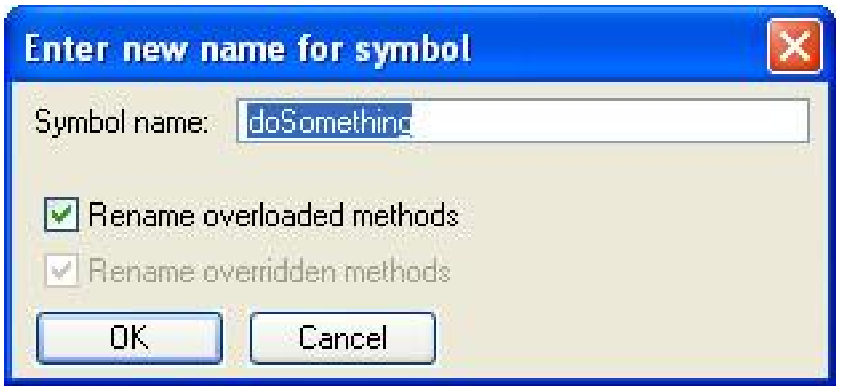
Rename

Rename is used to rename variables, methods, and classes. It uses Context Tagging® to identify:

- The symbol under the cursor (or any symbol selected in the Symbols or Outline views).
- All of the symbol overloads.
- All other instances of the symbol within the class hierarchy.

It then parses each file containing references to the selected symbol(s), and updates the rest of the code to use the changed name.

Figure 6.31. C++ Refactoring: Rename



Symbol name: doSomething

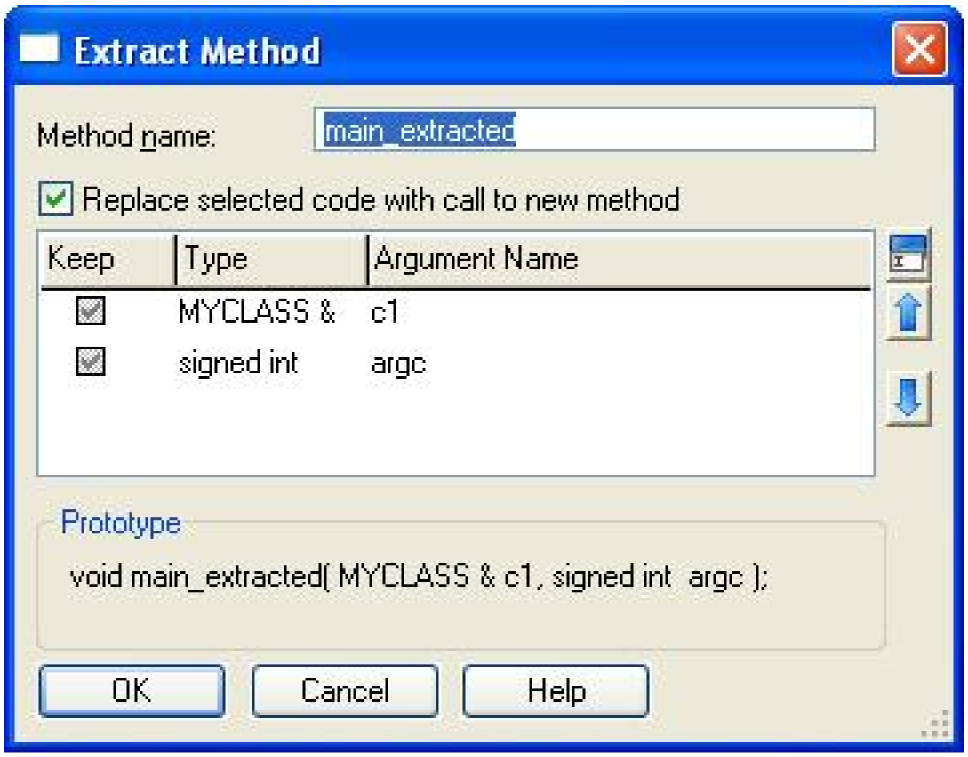
[✓] Rename overloaded methods

[✓] Rename overridden methods

Extract Method

After selecting a set of lines, Extract Method creates a new method with the selected lines as the body. It discovers any undeclared variables and creates them as parameters to the new method. The extracted method is created in the same scope as the original method.

Figure 6.32. C++ Refactoring: Extract Method



Method name: main_extracted

[✓] Replace selected code with call to new method

Keep	Type	Argument Name
✓	MYCLASS &	c1
✓	signed int	argc

Prototype

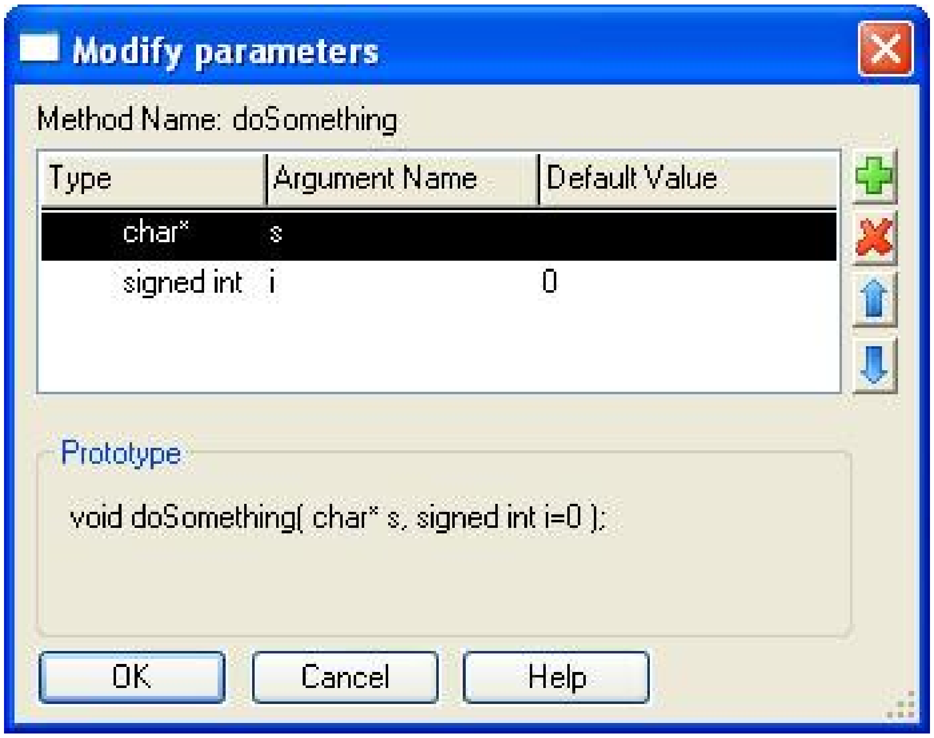
void main_extracted(MYCLASS & c1, signed int argc);

The **Method name** text box allows you to choose the name of the newly extracted method. Uncheck **Replace selected code with call to new method** if you do not want the original method to be modified. This option is unavailable if the selected block contains a return, continue, or break statement.

Modify Parameter List

Modify Parameter List allows you to add, delete, and re-order parameters for a selected function. The refactoring will modify the parameter list for the selected function and all of its counterparts within the class hierarchy.

Figure 6.33. C++ Refactoring: Modify Parameter List



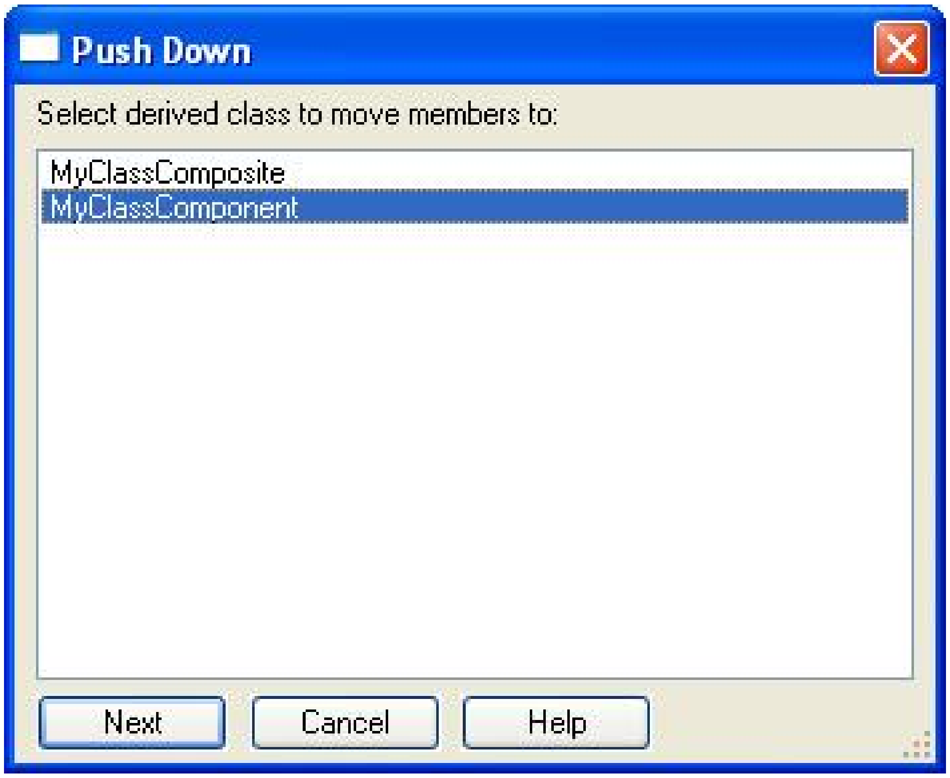
Type	Argument Name	Default Value
char*	s	
signed int	i	0

```
void doSomething( char* s, signed int i=0 );
```

Push Down to Derived Class

Moves class members to a class that inherits from the selected class.

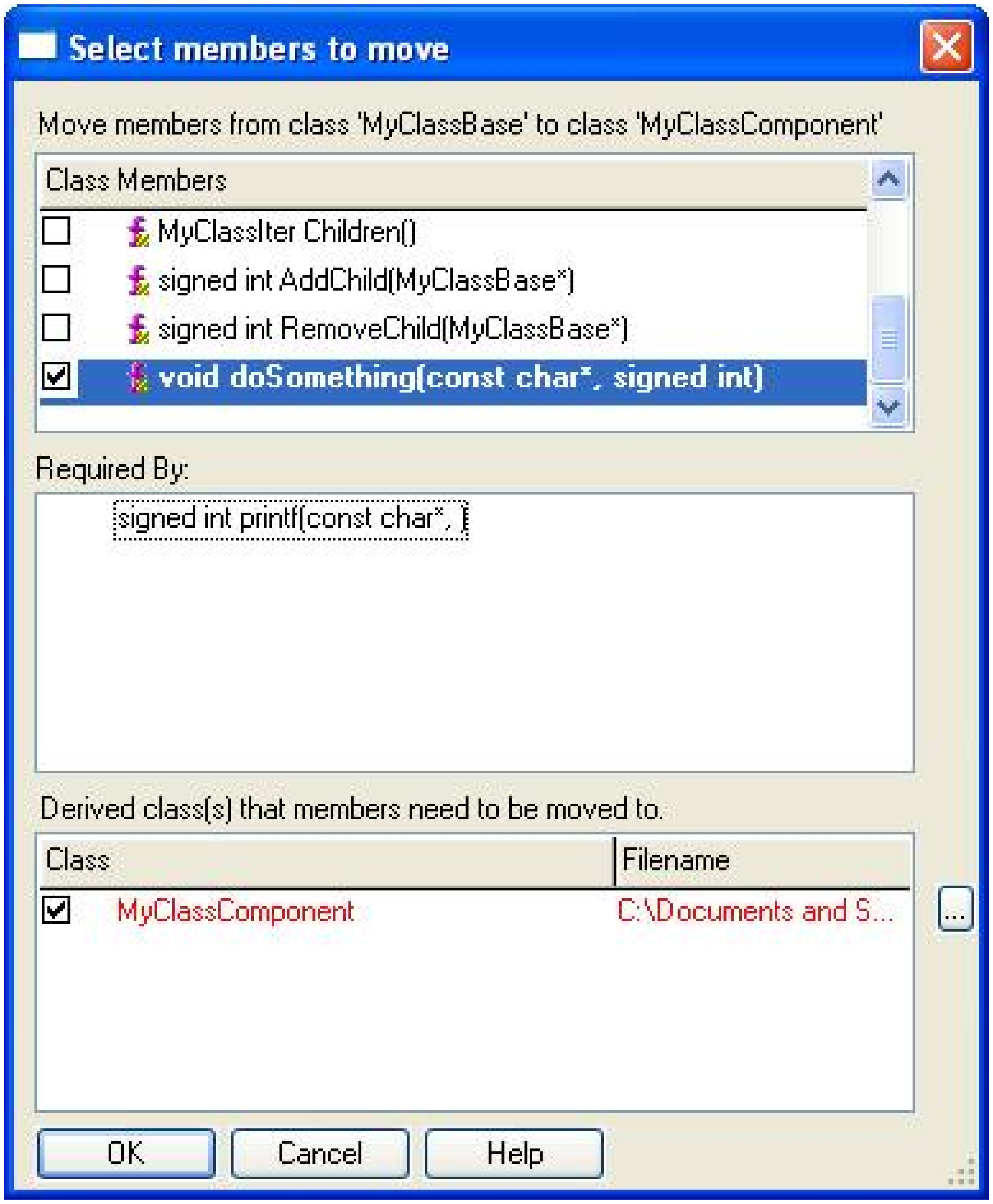
Figure 6.34. C++ Refactoring: Push Down to Derived Class



If a member of the super class is used by multiple subclasses, then the member is moved to all of the subclasses that access that member, so that when the refactoring is done, everything will compile. Any member that is explicitly accessed through an instance of the super class (or an instance that is cast to the super class) cannot be moved. Moving this will break the code.

Constructors and destructors cannot be moved. Members can only be moved one level at a time.

Figure 6.35. C++ Refactoring: Push Down - Selecting Members to Move



Move members from class 'MyClassBase' to class 'MyClassComponent'

Class Members
☐ MyClassIter Children()
☐ signed int AddChild(MyClassBase*)
☐ signed int RemoveChild(MyClassBase*)
☑ void doSomething(const char*, signed int)

Required By:

signed int printf(const char*,)

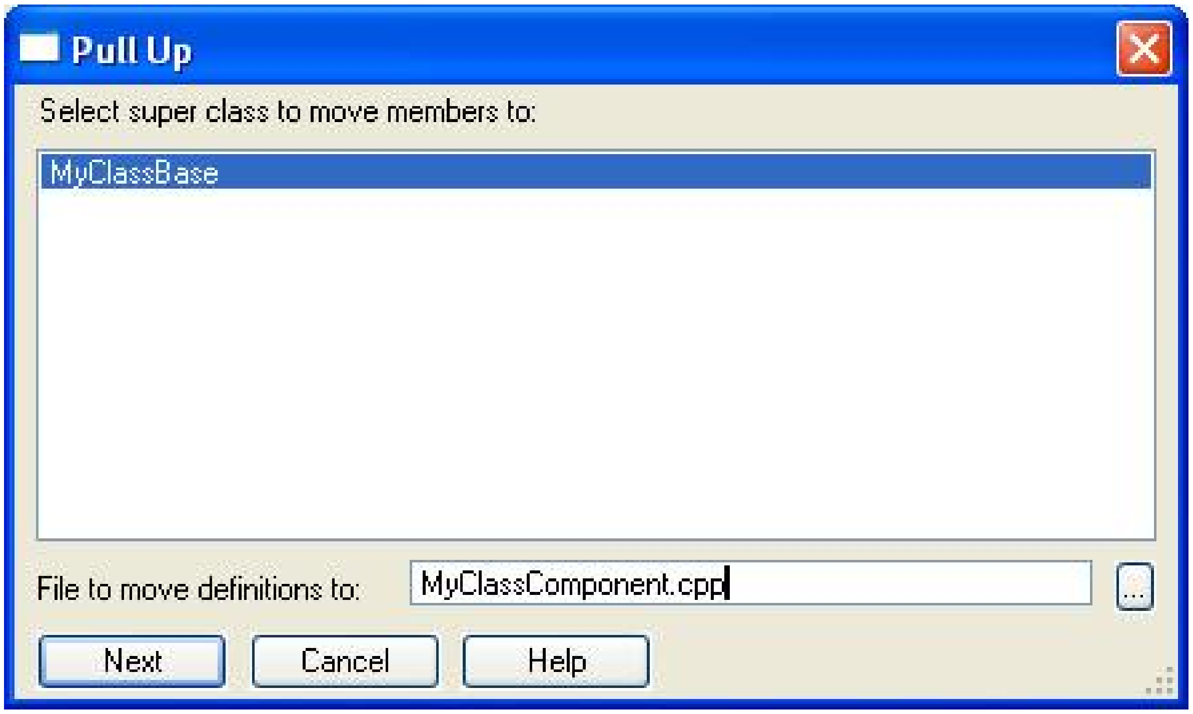
Derived class(s) that members need to be moved to.

Class	Filename
☑ MyClassComponent	C:\Documents and S...

Pull Up to Super Class

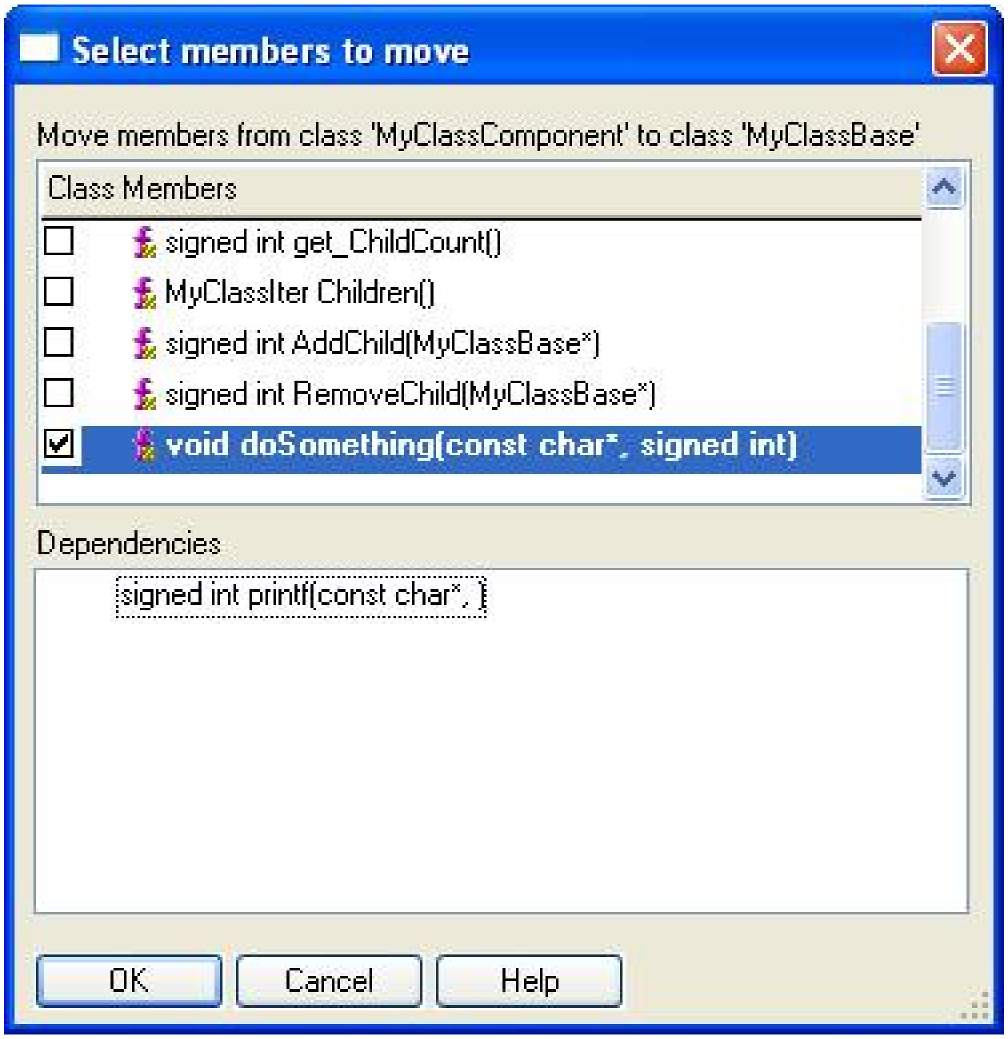
Automates moving members from a selected class to one of its directly-inherited base classes.

Figure 6.36. C++ Refactoring: Pull Up to Super Class


Pull Up
Select super class to move members to:
MyClassBase
File to move definitions to:
MyClassComponent.cpp
...
Next
Cancel
Help

Class members are pulled up one level at a time. Constructors and destructors cannot be moved. Any dependencies that are not part of the original class will not be moved to the new base class, and might not be accessible, thereby causing compilation errors. This occurs, for example, when a function being moved uses a static global variable that is defined in the original class' `.cpp` file when the definitions are moved to a different `.cpp` file.

Figure 6.37. C++ Refactoring: Pull Up - Selecting Members to Move



Move members from class 'MyClassComponent' to class 'MyClassBase'

Class Members
☐ signed int get_ChildCount()
☐ MyClassIter Children()
☐ signed int AddChild(MyClassBase*)
☐ signed int RemoveChild(MyClassBase*)
✓ void doSomething(const char*, signed int)

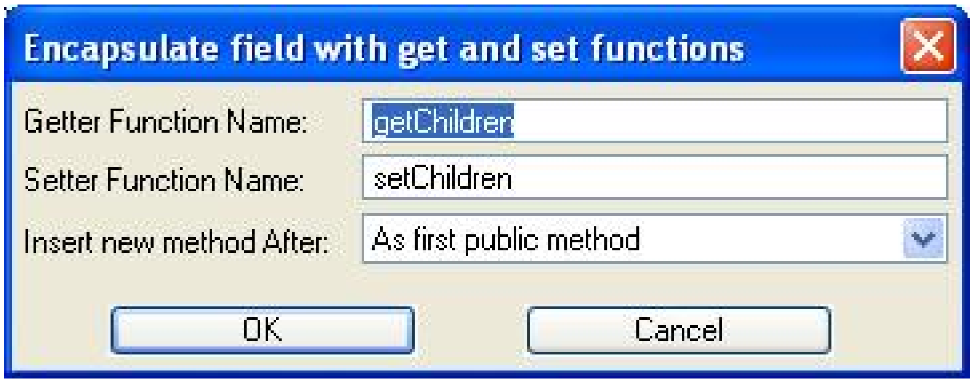
Dependencies

signed int printf(const char*,)

Encapsulate Field

Generates get and set functions for the specified variable and makes that variable private. All references to the variable are replaced with references to the getter or setter, as appropriate.

Figure 6.38. C++ Refactoring: Encapsulate Field



Getter Function Name: getChildren

Setter Function Name: setChildren

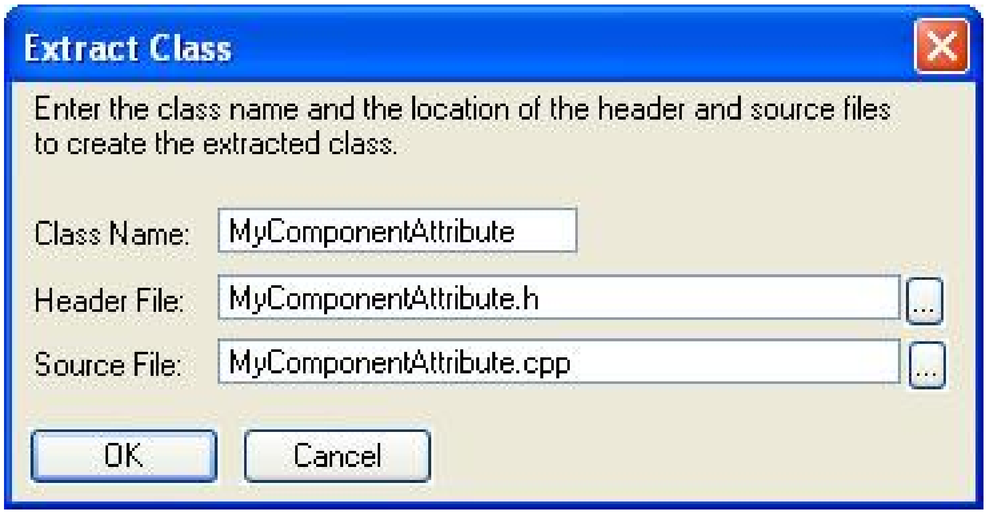
Insert new method After: As first public method

Extract Class

Breaks a large class into a better abstraction by moving some responsibilities into a new class or interface. This refactoring creates new files. When using the Extract Class refactoring, keep in mind the following information:

- The default path uses the same directory as the original class.
- The default file names are the `<class_name>.(cpp/h)`.
- Default paths and file names can be changed.
- The files will be added to the current project.
- If version control is enabled, you are prompted to add the files to the version control system.
- The new class will generate a default constructor, and a constructor that takes a parameter per member variable moved. Initializers in the original class' constructors for moved member variables are moved to the new class' constructors.

Figure 6.39. C++ Refactoring: Extract Class 1



Extract Class

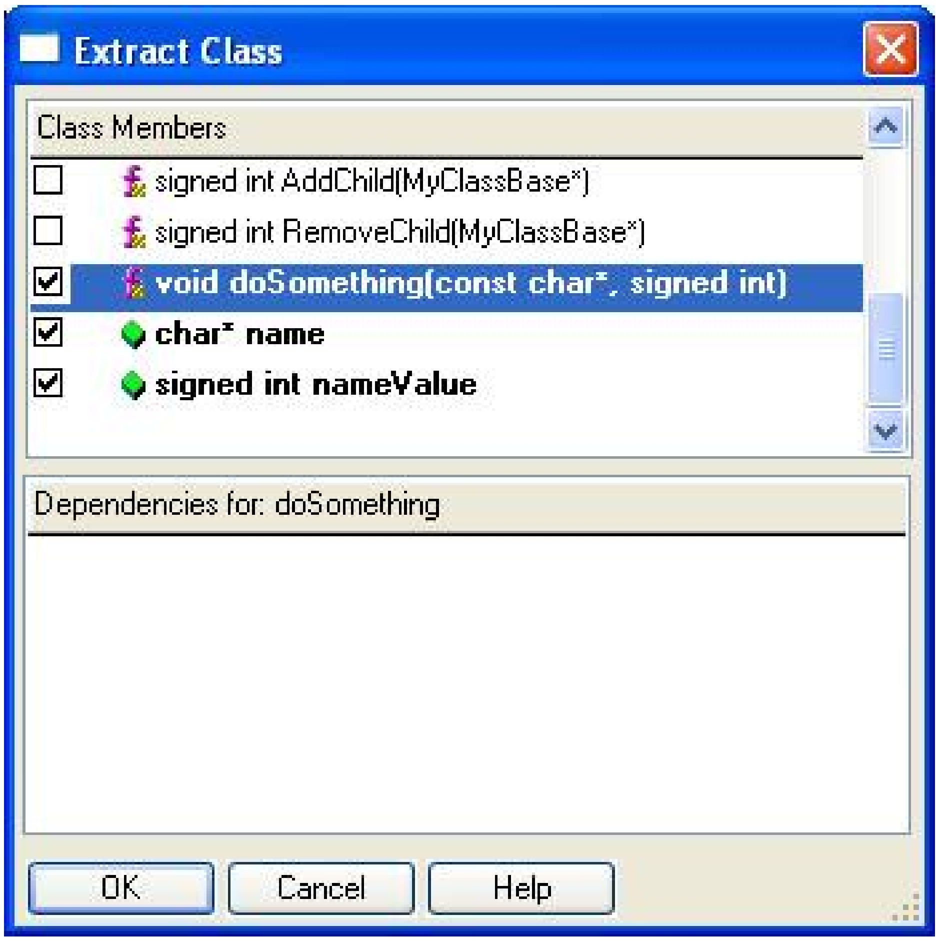
Enter the class name and the location of the header and source files to create the extracted class.

Class Name: MyComponentAttribute

Header File: MyComponentAttribute.h

Source File: MyComponentAttribute.cpp

Figure 6.40. C++ Refactoring: Extract Class 2

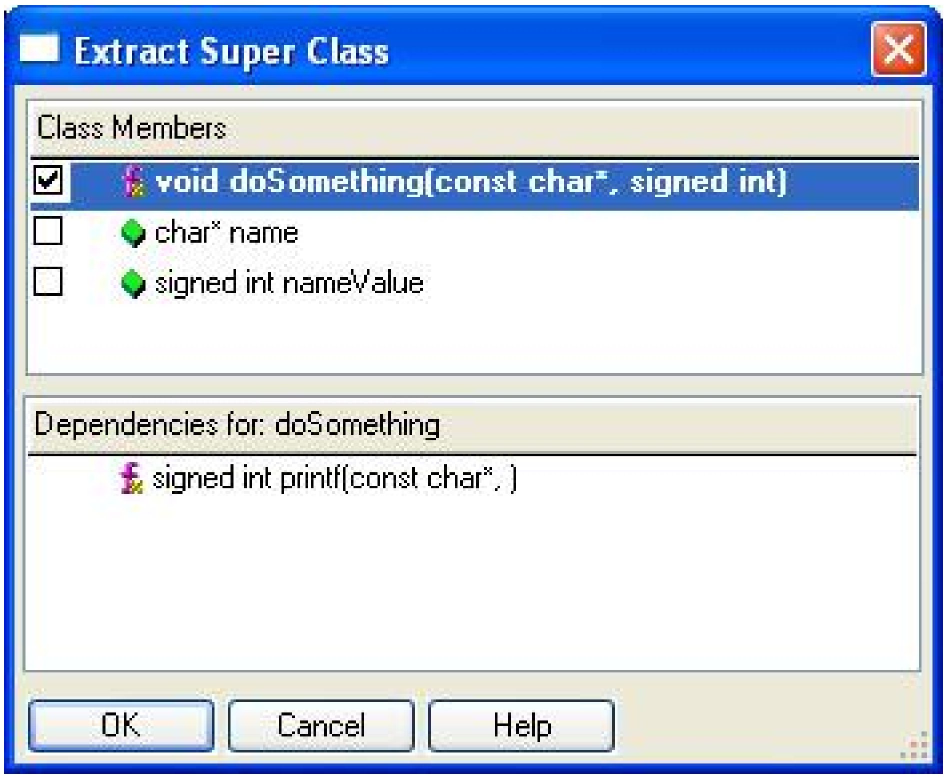


- [ ] signed int AddChild(MyClassBase*)
- [ ] signed int RemoveChild(MyClassBase*)
- [✓] void doSomething(const char*, signed int)
- [✓] char* name
- [✓] signed int nameValue

Extract Super Class

Breaks a large class into a better abstraction by moving some responsibilities into a new class/interface. The extracted class becomes the super class of the original class.

Figure 6.41. C++ Refactoring: Extract Super Class



[✓] void doSomething(const char*, signed int)
[ ] char* name
[ ] signed int nameValue

Dependencies for: doSomething

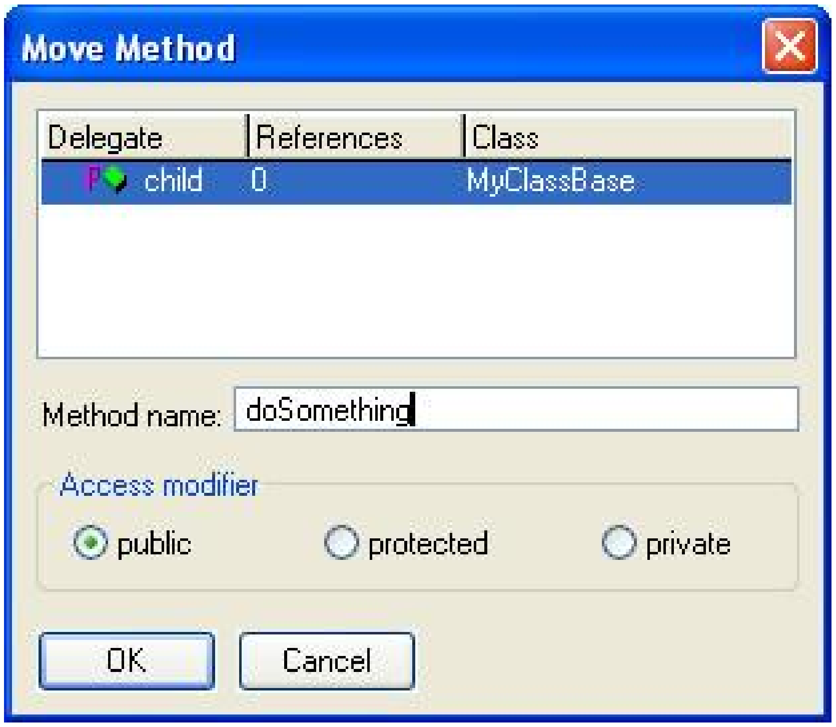
signed int printf(const char*,)

Move Method

Moves a method from one class to another and updates references accordingly.

The original method may be converted to a delegate method if there are references to the original method that cannot be converted to a reference to the moved method.

Figure 6.42. C++ Refactoring: Move Method 1



Delegate	References	Class
child	0	MyClassBase

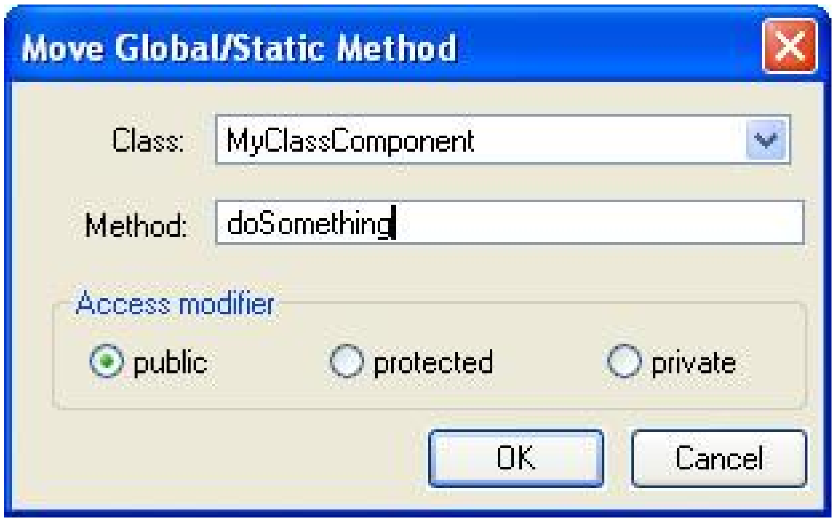
Method name: doSomething

Access modifier

[✓ public] protected private

If the method is static, you will be prompted for the target class.

Figure 6.43. C++ Refactoring: Move Method 2



Class: MyClassComponent

Method: doSomething

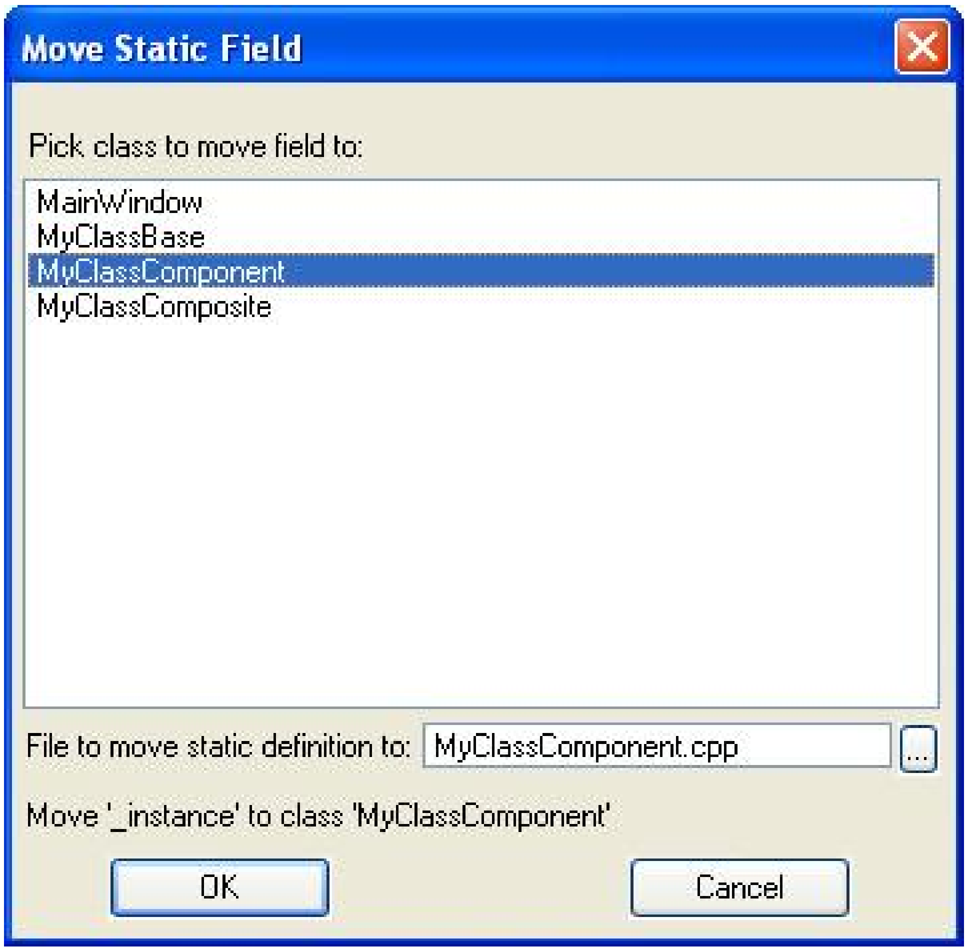
Access modifier

[✓ public] protected private

Move Static Field

Moves a static data member from one class to another and updates references accordingly.

Figure 6.44. C++ Refactoring: Move Static Field



Pick class to move field to:

MainWindow
MyClassBase
MyClassComponent
MyClassComposite

File to move static definition to: MyClassComponent.cpp

Move '_instance' to class 'MyClassComponent'

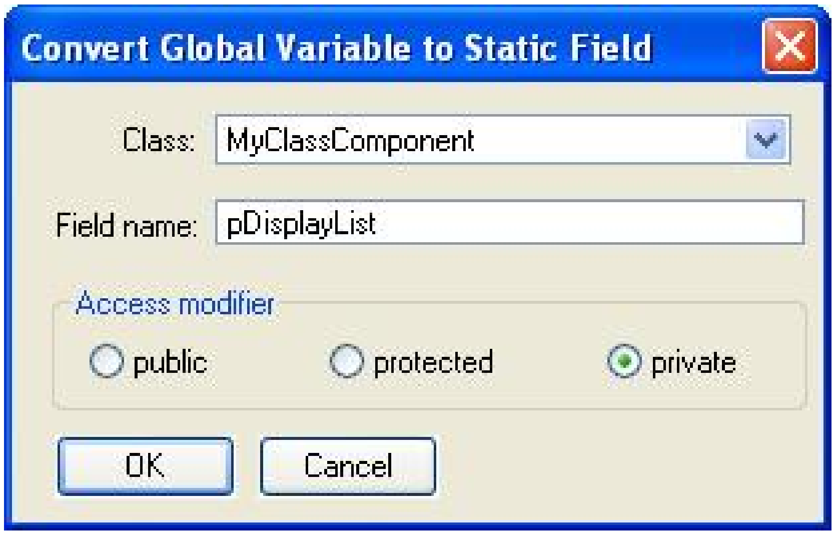
Convert Static to Instance Method

Changes a static method to an instance method and updates any references to change how the method is accessed.

Convert Global to Static Field

Moves globally-declared variables into a static field in a class, and updates references to refer to the new static variable.

Figure 6.45. C++ Refactoring: Convert Global to Static Field



Class: MyClassComponent

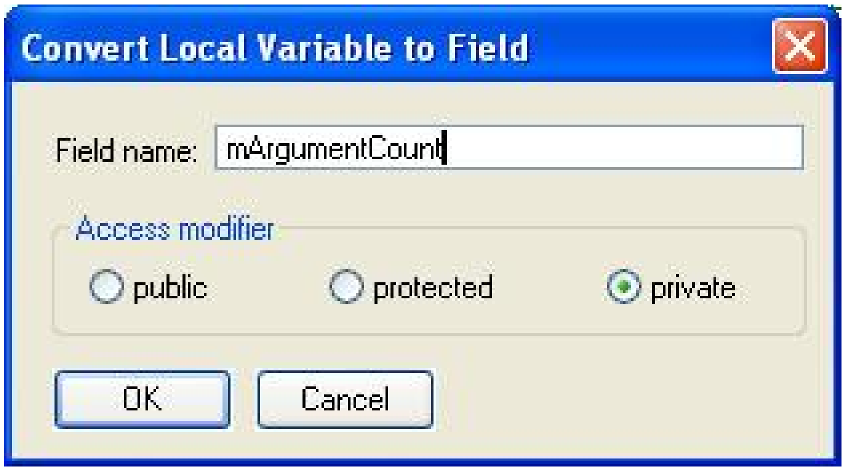
Field name: pDisplayList

( ) public ( ) protected (● private)

Convert Local to Field

Moves a local variable from the body of a method into an instance member variable in the current class. References to the local variable are replaced with references to the new data member. This refactoring cannot be used to convert a method parameter to a field.

Figure 6.46. C++ Refactoring: Convert Local to Field



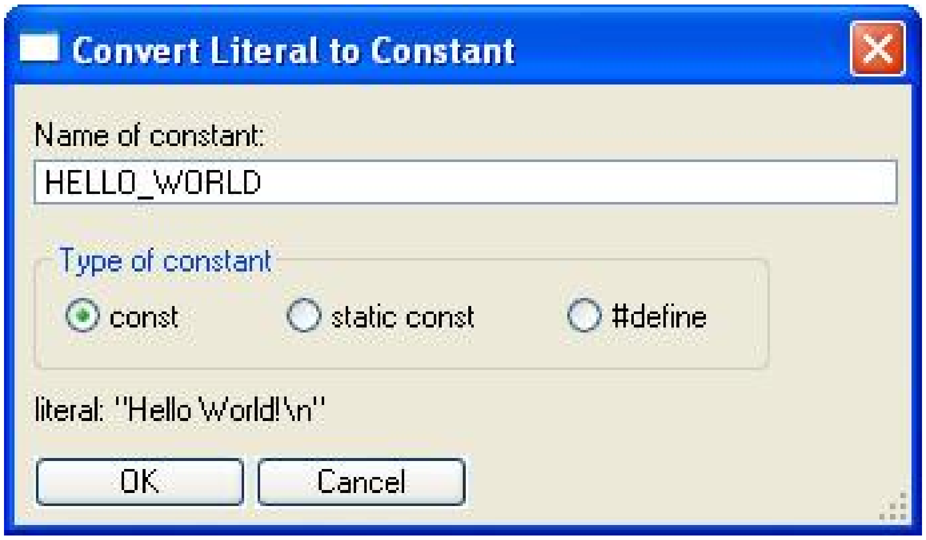
Field name: mArgumentCount

( ) public ( ) protected (● private)

Replace Literal with Constant

Replaces the selected literal with a constant, replacing use of the literal with the new constant.

Figure 6.47. C++ Refactoring: Replace Literal with Constant



Name of constant: HELLO_WORLD

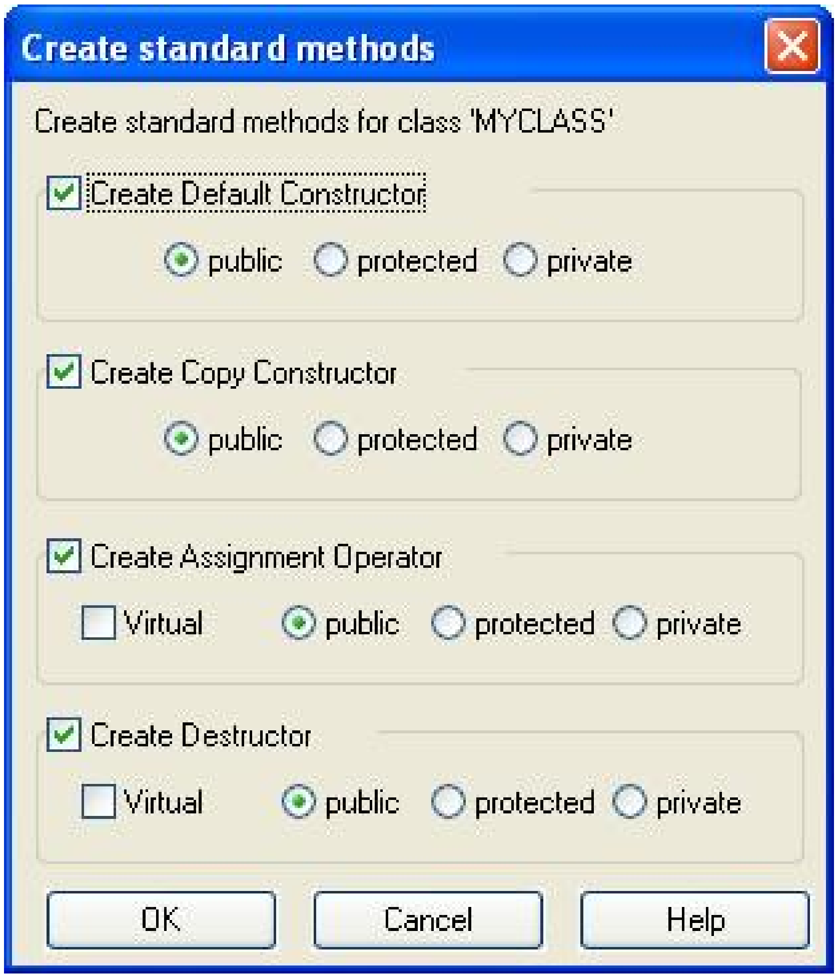
[✓ const] static const #define

literal: "Hello World!\n"

Create Standard Methods

Creates an assignment operator, copy constructor, default constructor, and destructor for the selected class.

Figure 6.48. C++ Refactoring: Create Standard Methods


Create standard methods

Create standard methods for class 'MYCLASS'

[✓] Create Default Constructor
[● public] ○ protected ○ private

[✓] Create Copy Constructor
[● public] ○ protected ○ private

[✓] Create Assignment Operator
[ ] Virtual [● public] ○ protected ○ private

[✓] Create Destructor
[ ] Virtual [● public] ○ protected ○ private

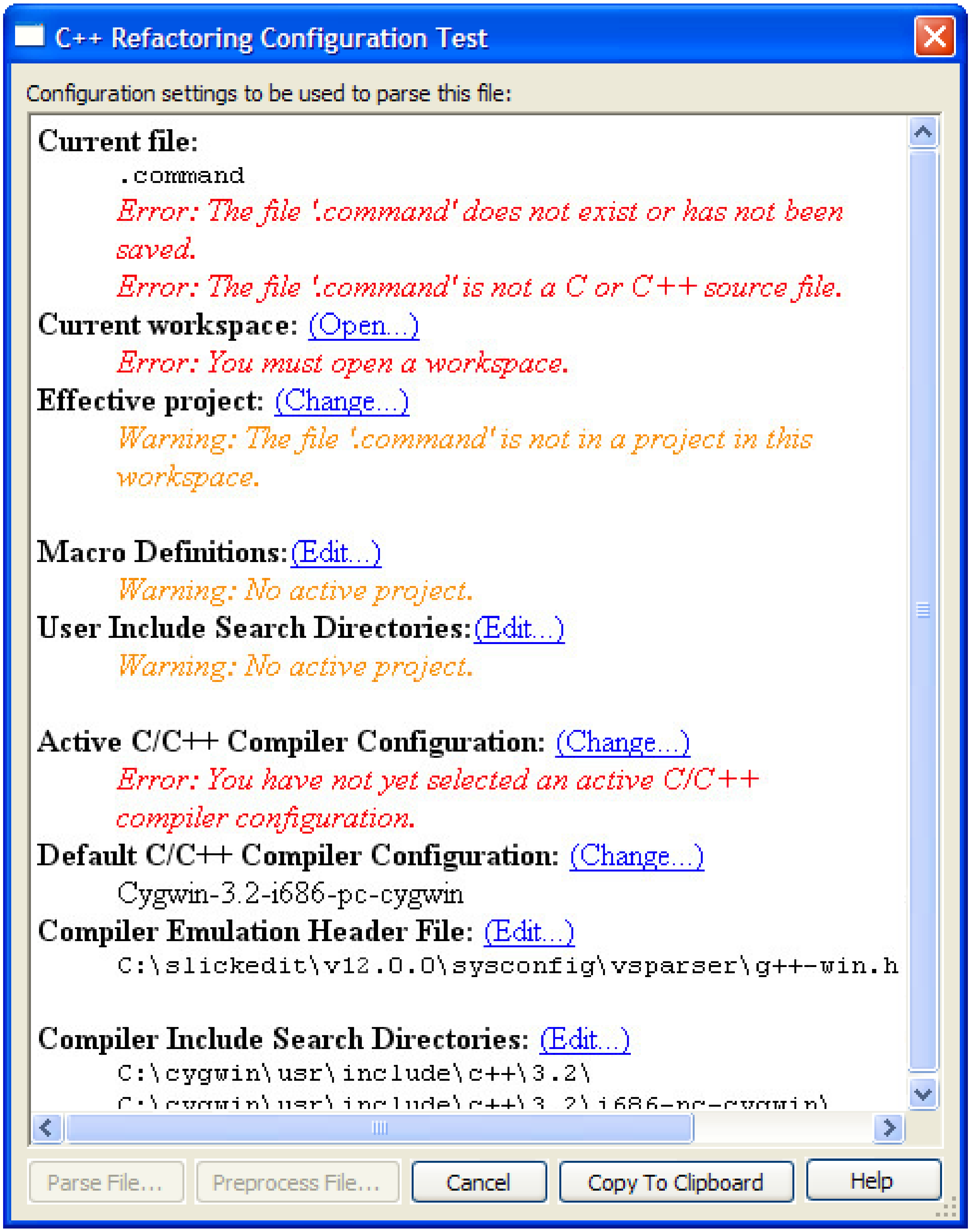
Test Parsing Configuration

Test Parsing Configuration analyzes the C++ refactoring configuration that has been set up and reports key information and errors. Generally, it is designed as a debugging aid when a refactoring fails, but it can also be valuable as a means to view the parameters that are set for a refactoring. You can verify the refactoring setup before proceeding to avoid errors.

To access Test Parsing Configuration, from the main menu click **C/C++ Refactoring** → **Test Parsing Configuration** (**refactor_parse** command), or right-click within the editor window and click **C++ Refactoring** → **Test Parsing Configuration**. On the Test Parsing Configuration dialog, click **Parse File** to parse the file. Any errors are displayed in the SlickEdit® Core Output view. Click **Preprocess File** to preprocess the file, sending the results to a new editor window. Click **Copy to Clipboard** to copy the entire display shown in the window. This is useful for sending to SlickEdit Support if it is necessary to diagnose a problem.

The following example of the Test Parsing Configuration window shows an error stating that there is no open workspace, as well as various other warnings. These are severe enough to prevent parsing the file, which is why the **Parse File** button is unavailable.

Figure 6.49. Test Parsing Configuration: Example 1



C++ Refactoring Configuration Test

Configuration settings to be used to parse this file:

Current file:

`.command`

Error: The file '.command' does not exist or has not been saved.

Error: The file '.command' is not a C or C++ source file.

Current workspace: (Open...)

Error: You must open a workspace.

Effective project: (Change...)

Warning: The file '.command' is not in a project in this workspace.

Macro Definitions:(Edit...)

Warning: No active project.

User Include Search Directories:(Edit...)

Warning: No active project.

Active C/C++ Compiler Configuration: (Change...)

Error: You have not yet selected an active C/C++ compiler configuration.

Default C/C++ Compiler Configuration: (Change...)

Cygwin-3.2-i686-pc-cygwin

Compiler Emulation Header File: (Edit...)

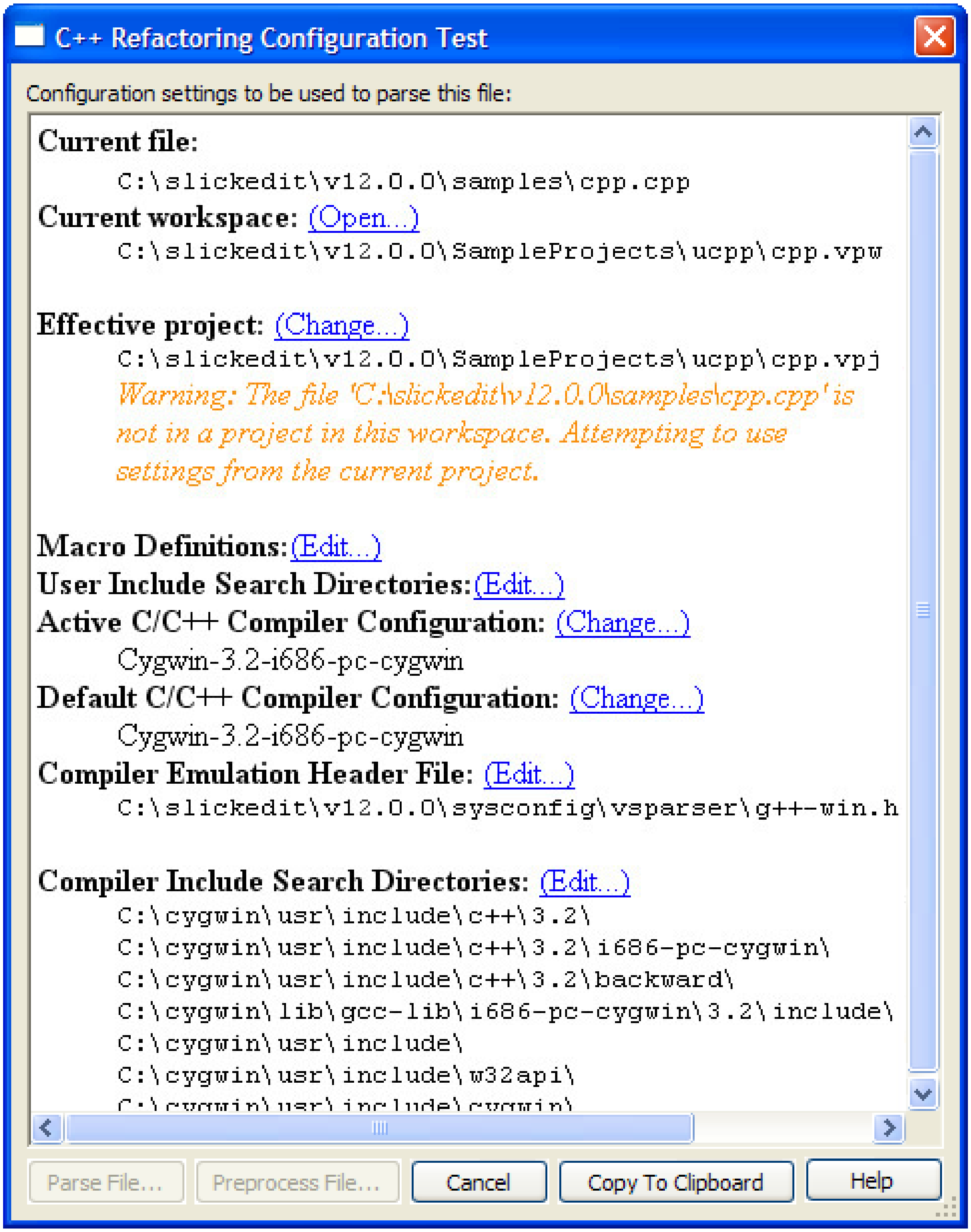
```
C:\slickedit\v12.0.0\sysconfig\vsparser\g++-win.h
```

Compiler Include Search Directories: (Edit...)

```
C:\cygwin\usr\include\c++\3.2\
C:\cygwin\usr\include\c++\3.2\i686-pc-cygwin\
```

The following example shows a warning that is not severe enough to prevent parsing of the file.

Figure 6.50. Test Parsing Configuration: Example 2



C++ Refactoring Configuration Test

Configuration settings to be used to parse this file:

Current file:

```
C:\slickedit\v12.0.0\samples\cpp.cpp
```

Current workspace: (Open...)

```
C:\slickedit\v12.0.0\SampleProjects\ucpp\cpp.vpw
```

Effective project: (Change...)

```
C:\slickedit\v12.0.0\SampleProjects\ucpp\cpp.vpj
```

Warning: The file 'C:\slickedit\v12.0.0\samples\cpp.cpp' is not in a project in this workspace. Attempting to use settings from the current project.

Macro Definitions:(Edit...)
User Include Search Directories:(Edit...)
Active C/C++ Compiler Configuration: (Change...)
Cygwin-3.2-i686-pc-cygwin
Default C/C++ Compiler Configuration: (Change...)
Cygwin-3.2-i686-pc-cygwin
Compiler Emulation Header File: (Edit...)

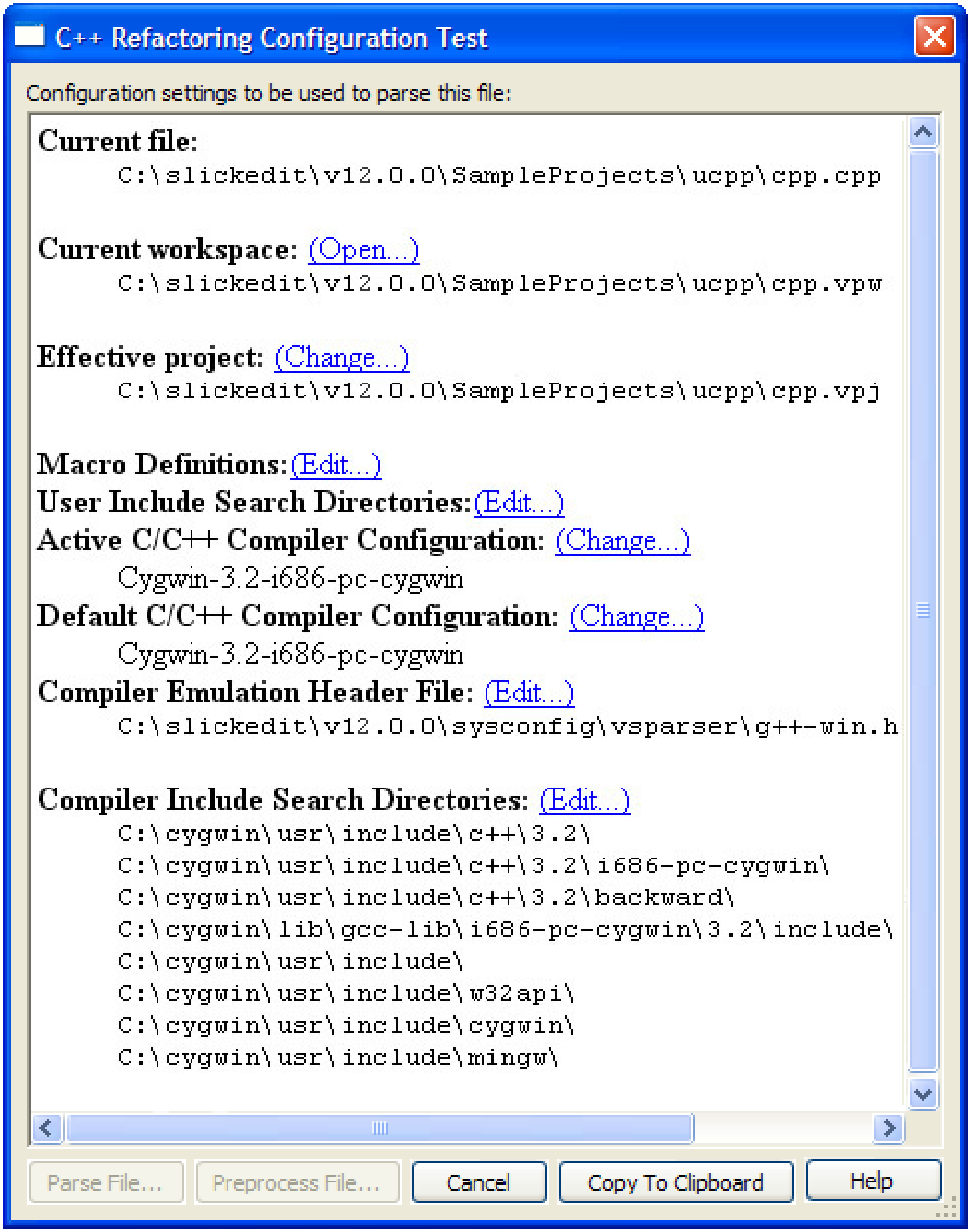
```
C:\slickedit\v12.0.0\sysconfig\vsparser\g++-win.h
```

Compiler Include Search Directories: (Edit...)

```
C:\cygwin\usr\include\c++\3.2\
C:\cygwin\usr\include\c++\3.2\i686-pc-cygwin\
C:\cygwin\usr\include\c++\3.2\backward\
C:\cygwin\lib\gcc-lib\i686-pc-cygwin\3.2\include\
C:\cygwin\usr\include\
C:\cygwin\usr\include\w32api\
C:\cygwin\usr\include\cygwin\
```

Finally, the following example shows a test resulting in no errors or warnings.

Figure 6.51. Test Parsing Configuration: Example 3



Configuration settings to be used to parse this file:

Current file:
```
    C:\slickedit\v12.0.0\SampleProjects\ucpp\cpp.cpp
```

Current workspace: (Open...)
```
    C:\slickedit\v12.0.0\SampleProjects\ucpp\cpp.vpw
```

Effective project: (Change...)
```
    C:\slickedit\v12.0.0\SampleProjects\ucpp\cpp.vpj
```

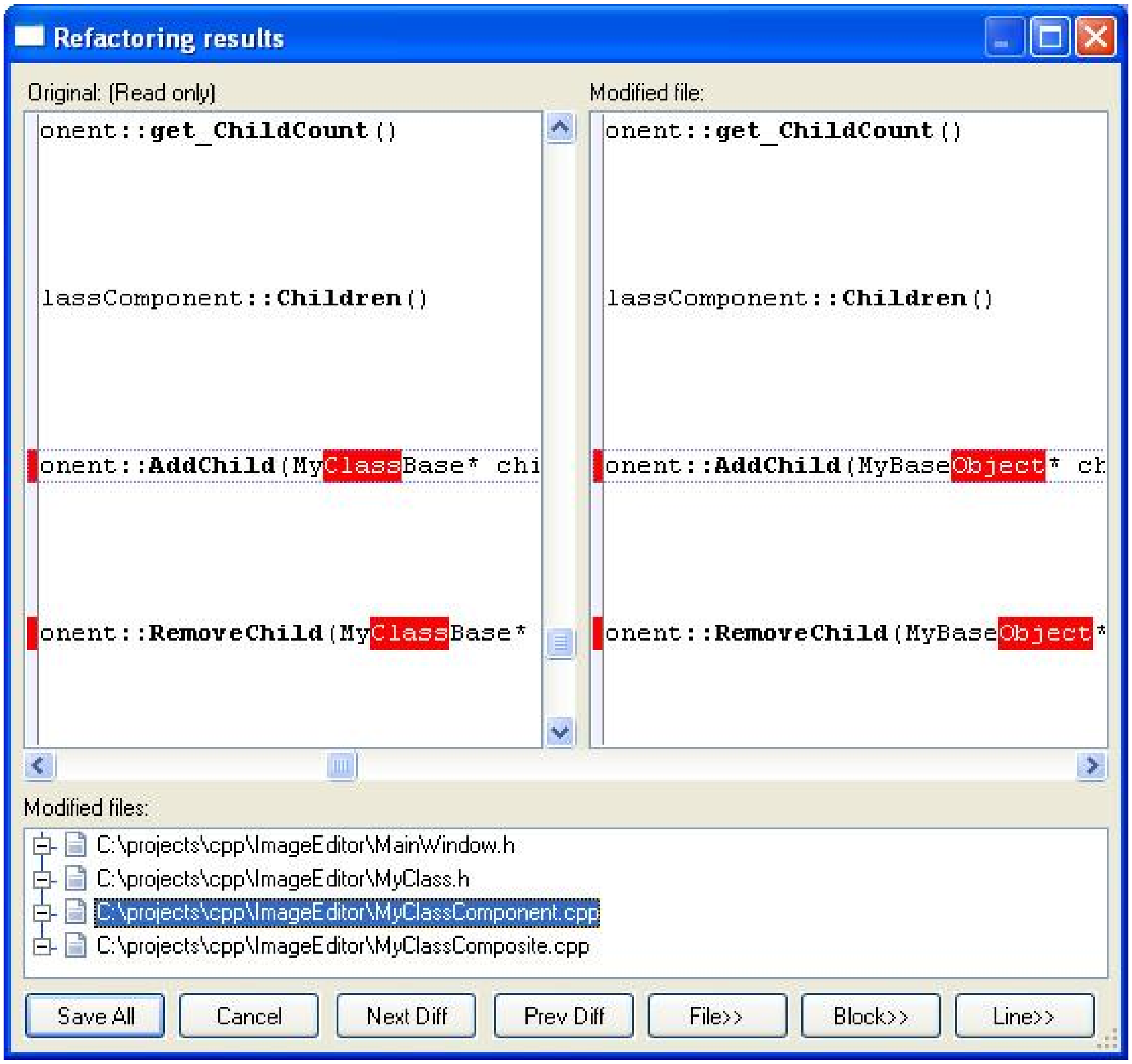
Macro Definitions:(Edit...)
User Include Search Directories:(Edit...)
Active C/C++ Compiler Configuration: (Change...)
    Cygwin-3.2-i686-pc-cygwin
Default C/C++ Compiler Configuration: (Change...)
    Cygwin-3.2-i686-pc-cygwin
Compiler Emulation Header File: (Edit...)
```
    C:\slickedit\v12.0.0\sysconfig\vsparser\g++-win.h
```

Compiler Include Search Directories: (Edit...)
```
    C:\cygwin\usr\include\c++\3.2\
    C:\cygwin\usr\include\c++\3.2\i686-pc-cygwin\
    C:\cygwin\usr\include\c++\3.2\backward\
    C:\cygwin\lib\gcc-lib\i686-pc-cygwin\3.2\include\
    C:\cygwin\usr\include\
    C:\cygwin\usr\include\w32api\
    C:\cygwin\usr\include\cygwin\
    C:\cygwin\usr\include\mingw\
```

Reviewing Refactoring Changes

When a refactoring finishes, the Refactoring results dialog box is displayed, allowing you to review the changes.

Figure 6.52. Refactoring Results



```
onent::get_ChildCount()
lassComponent::Children()
onent::AddChild(MyClassBase* chi
onent::RemoveChild(MyClassBase*
```

```
onent::get_ChildCount()
lassComponent::Children()
onent::AddChild(MyBaseObject* ch
onent::RemoveChild(MyBaseObject*
```

C:\projects\cpp\ImageEditor\MainWindow.h
C:\projects\cpp\ImageEditor\MyClass.h
C:\projects\cpp\ImageEditor\MyClassComponent.cpp
C:\projects\cpp\ImageEditor\MyClassComposite.cpp

There are three panes in this window:

- The left pane is read-only and shows the original file(s).
- The right pane shows the refactored file(s). For convenience, this pane can be edited.

- The bottom pane lists all files that have been modified by the refactoring. Clicking on any file in this list brings that file into view, where it can be reviewed and edited.

Click **Save All** at the bottom of this window to save all the refactoring and editing changes that were made on all files. Click **Cancel** to discard changes and have all files remain the way they were before the refactoring process.

Click **Next Diff** or **Prev Diff** to advance to the next or previous change made by the refactoring. Click **File>>** to restore the contents of the current selected file to its original contents.

Click **Block>>** to restore an entire block of changes to the original contents. Click **Del Block** to remove a block of code inserted by the refactoring. Click **Line>>** to restore the current line to its original contents.

Some refactorings, in particular Modify Parameter List, may require further user input. In this case each input will be displayed under the file it is in, and there will be two additional buttons: **Next Input** and **Prev Input**. You will not be able to save the refactoring results until you have resolved all of the input requests.

Java Refactoring

The **Eclipse JDT Refactor** main menu item for Java refactoring disappears when you are not using the JDT Editor. SlickEdit Core has made several of these refactorings available in the editor's right-click menu, under the **Source** menu item:

- **Override/Implement Methods**
- **Implement Getters and Setters**
- **Generate Delegate Methods**
- **Add Constructors from Superclass**
- **Generate Constructor Using Fields**
- **Externalize Strings**

There are also other Java refactorings from the JDT accessible from the **Refactor** menu item of the editor's right-click menu:

- **Move**
- **Change Method Signature**
- **Convert Anonymous Class to Nested**
- **Move Member Type to New File**
- **Pull Up**
- **Push Down**
- **Extract Interface**

- **User Supertype Where Possible**
- **Inline**
- **Introduce Factory**
- **Encapsulate Field**

See the Eclipse Help for descriptions and other information regarding Java refactoring (**Java Development User Guide** → **Reference** → **Refactoring**).

Viewing and Displaying

SlickEdit® Core offers several features for viewing and displaying.

Hexadecimal View and Edit Mode

To view a binary or text file in a hex/text view mode, click **Display** → **Hex** or **Display** → **Line Hex** (or use the commands **hex** or **linehex**). If closing a file while viewing it in hex mode, then the next time the file is edited, it will be displayed in hex/text view mode. When the cursor is in the hex data, it can be overwritten or hex nibbles (characters **0** through **F**) can be inserted. When the cursor is in the text data, overwrite it if you want, or insert text characters the same as if editing a text file. All of the search and replace commands work while hex editing. Only character selections are displayed when in hex editing mode.

Hex Mode Key Bindings

Hex mode key bindings override normal key bindings for the emulation. Most of the other emulation keys will perform the same operation. However, keys that are bound to the commands **top_of_buffer**, **bottom_of_buffer**, **page_up**, **page_down**, **begin_line**, **end_line**, **begin_line_text_toggle**, **cursor_left**, or **cursor_right** will perform hex/text cursor motion.

Table 6.15. Hex Mode Key

Key	Function
Tab and **Shift**+**Tab**	Toggle cursor between hex data on left and text data on right.
Home	Move cursor to beginning of hex/text line.
End	Move cursor to last character of hex/text line.
Backspace	Delete a byte to the left of the cursor and move the cursor to the left.
Delete	Delete the byte under the cursor.

Viewing Special Characters

By default, many important characters are not visible in the editor, like tabs, spaces, and line-ending characters. To view these, click **Display** → **Special Chars**. SlickEdit® Core will then display a visible character to represent these invisible characters. When using this option with **Display** → **Line Hex**, the hex value for the actual character (like space) will be displayed, not the value for the character used to represent it (like a dot).

To define which characters to display, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the **Special Characters** tab. See Defining Special Characters below.

Note

Viewing special characters is only available for ASCII files.

Special Character Toggles

The following toggles are available on the view menu:

- Hex Toggle
- Line Hex Toggle
- Special Characters Toggle
- New Line Characters Toggle
- Tab Characters Toggle
- Space Characters Toggle
- Line Numbers Toggle

Defining Special Characters

To define what characters to display when viewing special characters, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the Special Characters Tab. Enter the character codes that you wish to use.

To view the differences between a DOS format text file and another format when **View** → **New Line Chars** is active, choose something other than a space for the **End-Of-Line (2)** character. Under Windows, the recommended choices are **13** for **End-Of-Line (1)** and **10** for **End-Of-Line (2)**.

To change the colors and styles of special characters, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting. Select **Special Characters** from the screen element drop-down list. For more information on color settings, see Setting Fonts and Colors.

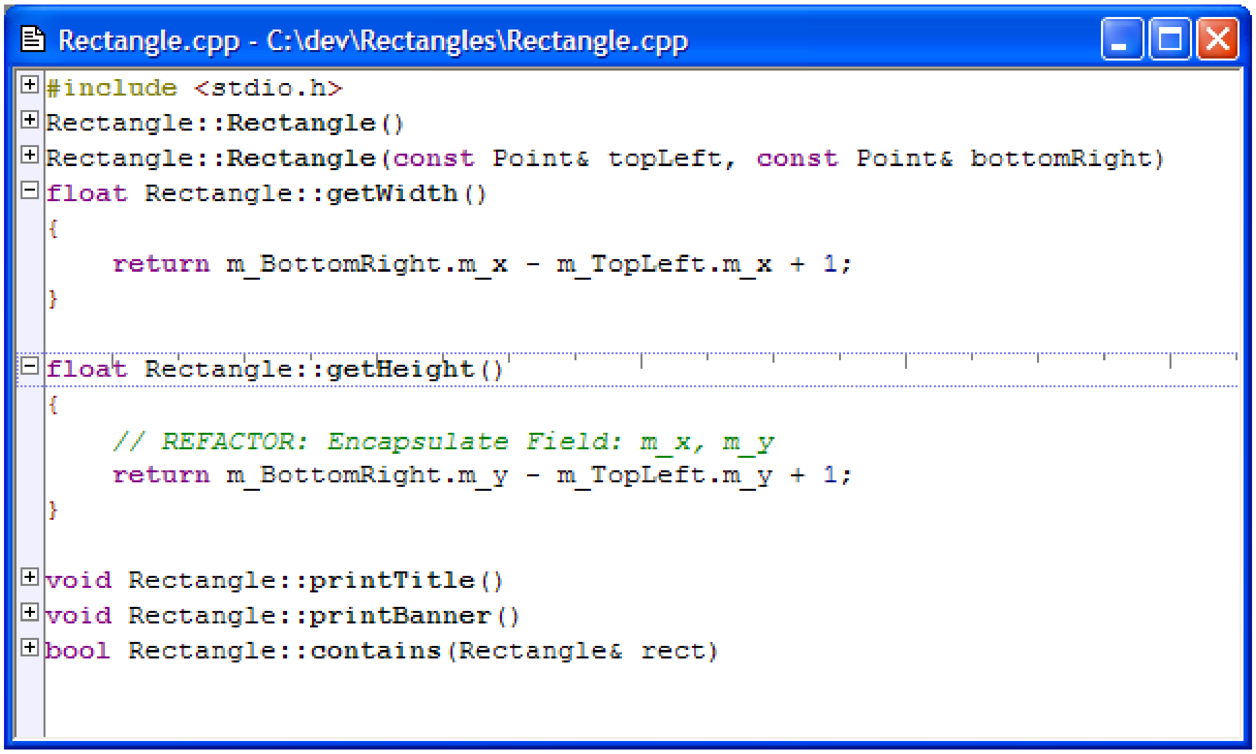
Selective Display

Selective Display (also known as *code folding*) is a convenient way to display or hide regions of your code, so that you can view and manage only those regions that are relevant to your current editing session.

Use the Selective Display dialog to activate this feature and to specify the type of regions to display or hide. This dialog is displayed by clicking **Display** → **Selective Display**, or by using the **selective_display** command.

When Selective Display is active, a **Plus** (+) or **Minus** (-) bitmap is placed before hidden or expanded lines in the editor window margin. The following screenshot shows a sample file with two function definitions expanded and the rest collapsed.

Figure 6.53. Selective Display



```
#include <stdio.h>
Rectangle::Rectangle()
Rectangle::Rectangle(const Point& topLeft, const Point& bottomRight)
float Rectangle::getWidth()
{
    return m_BottomRight.m_x - m_TopLeft.m_x + 1;
}

float Rectangle::getHeight()
{
    // REFACTOR: Encapsulate Field: m_x, m_y
    return m_BottomRight.m_y - m_TopLeft.m_y + 1;
}

void Rectangle::printTitle()
void Rectangle::printBanner()
bool Rectangle::contains(Rectangle& rect)
```

When Selective Display is active, you can perform the following operations:

- To display or hide lines: Double-click on the **Plus** (+) or **Minus** (-) bitmaps. Alternatively, click **Display** → **Expand/Collapse Block**, press **Ctrl+**, or use the **plusminus** command.

  Tip

  Selective Display bitmaps can be expanded or collapsed with a single click, causing Selective Display to operate similar to Windows Explorer. Note, however, that you will not be able to select a line by clicking to the left of a text line which contains a Selective Display bitmap. To set this option, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. Select the option **Expand/collapse single click**.

- To copy visible text to the clipboard: Click **View** → **Copy Visible** or use the **copy_selective_display** command. Normally when you copy a selection that spans multiple lines, hidden lines are copied as well. This command ignores hidden lines and only copies visible text. This operation does not work with block selections.

- To redisplay all lines and remove the **Plus** and **Minus** bitmaps: From the main menu click **View** → **Show All** (**show_all** command).

Expanding/Collapsing Code Blocks

SlickEdit® Core provides a way to expand and collapse code blocks without having to clutter the gutter with Selective Display bitmaps. You can expand or collapse blocks of code by using the **plusminus** command, whether or not Selective Display **Plus** or **Minus** bitmaps are displayed.

The **plusminus** command expands or collapses code blocks under the following conditions:

- If the cursor is on the first line of a code block, the block is collapsed, creating a new Selective Display region.
- If the cursor is on a line that contains a **Plus** (+) bitmap, the block is expanded.
- If the cursor is on a line that contains a **Minus** (-) bitmap, the expanded block is collapsed.

Note

- The definition of a "code block" is based on your language.
- The **plusminus** command is controlled by the **def_plusminus_blocks** configuration variable. The value is set to true (1) by default. For more information, see ConfigurationVariables.

- The **plusminus** command uses the same logic to identify code blocks as the command **cut_code_block**. See Deleting Code Blocks for more information.

Selective Display Regions

Using the Selective Display dialog, you can choose the regions you want to display or hide. Specific settings are provided for each region.

- Search Text - Displays lines that contain the specified search string or lines that do not contain the specified string.
- Function Definitions - Displays only function headings and optionally, function heading comments.
- Preprocessor Directives - Displays a source file as if it were preprocessed according to the define values specified here. If you do not remember your defines, use the **Scan for Defines** button.
- Multi-Level - Select this option to set multiple levels of Selective Display based on braces or indent.
- Paragraphs - Displays the first line of each paragraph. A paragraph is defined by a group of lines followed by one or more blank lines.
- Hide Selection - Select this option to hide the lines in the current selection.

The Selective Display dialog also contains static options for expanding/collapsing sub-levels. See Select-ive Display Dialog for more information and details about the available settings.

Other Display Options

This section describes other general display options that you might find useful.

Displaying a Vertical Line

You can choose to display a vertical line in all files that are open for editing. To access this setting, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the General Tab. In the **Vertical line column** spin box, specify the column number at which you want the vertical line displayed. A value of 0 (default) displays no vertical line. Click on the colored box to the right of this option to change the color of the vertical line.

Viewing Line Numbers

The line number of the current cursor position is always shown in the status line of SlickEdit® Core (along the bottom right edge of the editor). You can also choose to display line numbers in the left gutter of editor windows.

To toggle display of line numbers for the current document, from the main menu click **Display** → **Line Numbers**, or use the **view_line_numbers_toggle** command on the SlickEdit Core command line.

To always display line numbers for any file with a specific extension, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting.
2. From the **Extension** drop-down list, select the extension to work with.
3. Click the General Tab, then click the **Display line numbers** check box.

Chapter 7. Language-Specific Editing

Language-Specific Editing Overview

Many features in SlickEdit® Core are language-specific and based on the language editing mode. You can also configure different settings for different languages. See Language Editing Modes and Extension Options below for more information.

This chapter also includes specific information about extension options, beautifiers, and more for the following languages:

- Ada
- C and C++
- COBOL
- Java
- Pascal
- PL/I
- Python
- XML and HTML

Language Editing Modes

SlickEdit® Core uses the extension of the current file to determine what language you are using, thereby only making available the options and features that are possible in that language. If you have a file with a non-standard extension or no extension at all, you will need to manually specify the editing mode. To specify a mode, from the main menu click **Format** → **Select Mode** (or use the **select_mode** command). The Select Mode dialog is displayed with a list of modes from which to select.

Changing and Creating Modes

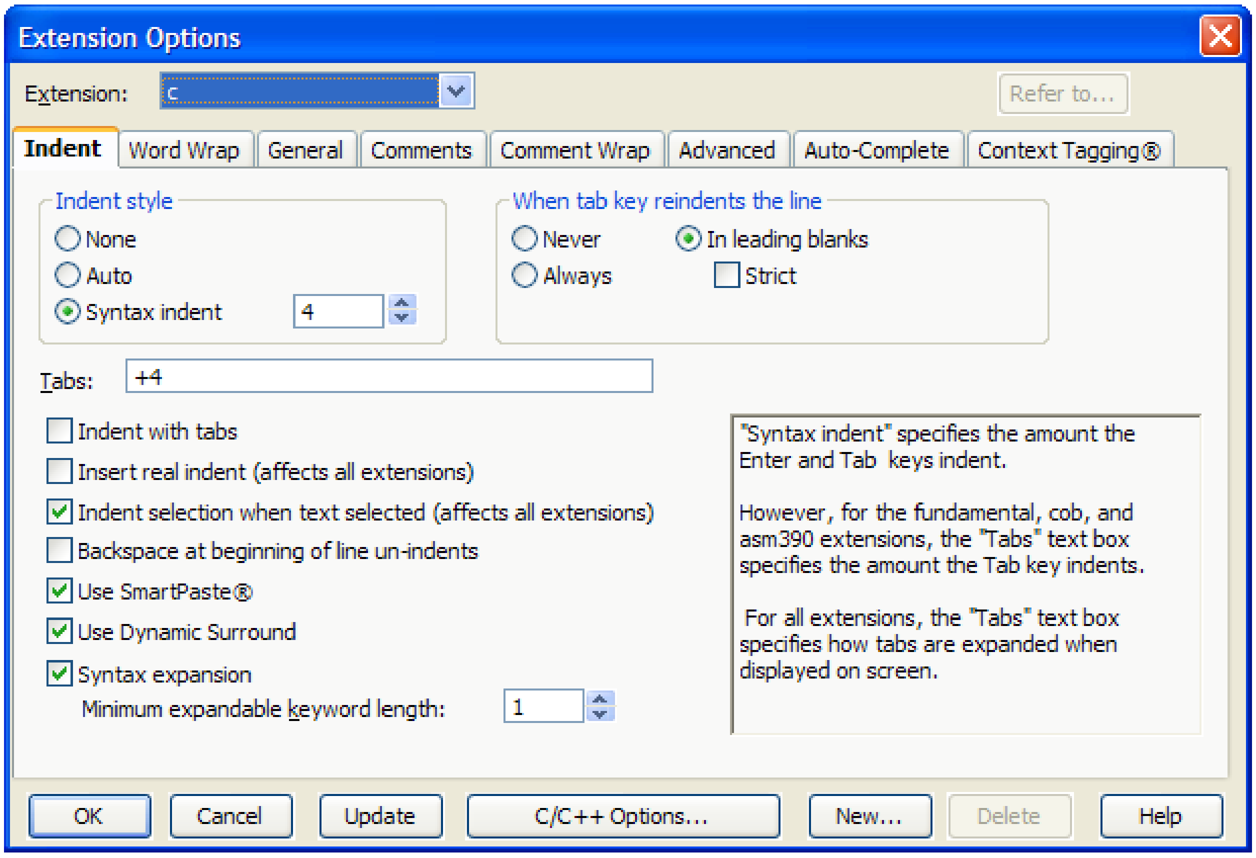
To change or create modes, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Select the General Tab. If you want to change the name of an existing mode, select the language extension from the **Extension** drop-down list. Then enter the new name in the **Mode name** text box.

If your language is not listed in the Select Mode dialog or in the **Extension** drop-down list, you can create a new mode. Click the **New** button on the Extension Options dialog, then type the language extension (without the Dot) in the **Extension** text box. If the language is similar to another language that is already available, you can select it from the **Refer to** combo box. This will cause the new extension's configuration to match the configuration of the referred existing language. See Referring to Extensions for more information.

Extension Options

The behavior of the editor can be customized for files based on specific language extensions. The Extension Options dialog box (shown below) contains the settings that can be configured for file extensions. To display this dialog, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Alternatively, display the dialog by using the **setupext** command.

Figure 7.1. Extension Options Dialog



Indent style
- ( ) None
- ( ) Auto
- (●) Syntax indent 4

When tab key reindents the line
- ( ) Never
- (●) In leading blanks
- ( ) Always
- ☐ Strict

Tabs: +4

- ☐ Indent with tabs
- ☐ Insert real indent (affects all extensions)
- ☑ Indent selection when text selected (affects all extensions)
- ☐ Backspace at beginning of line un-indents
- ☑ Use SmartPaste®
- ☑ Use Dynamic Surround
- ☑ Syntax expansion

Minimum expandable keyword length: 1

"Syntax indent" specifies the amount the Enter and Tab keys indent.

However, for the fundamental, cob, and asm390 extensions, the "Tabs" text box specifies the amount the Tab key indents.

For all extensions, the "Tabs" text box specifies how tabs are expanded when displayed on screen.

Be sure to select the extension you want to affect from the **Extension** drop-down list before configuring any settings. For a complete of options and buttons on this dialog, see Extension Options Dialog.

Referring to Extensions

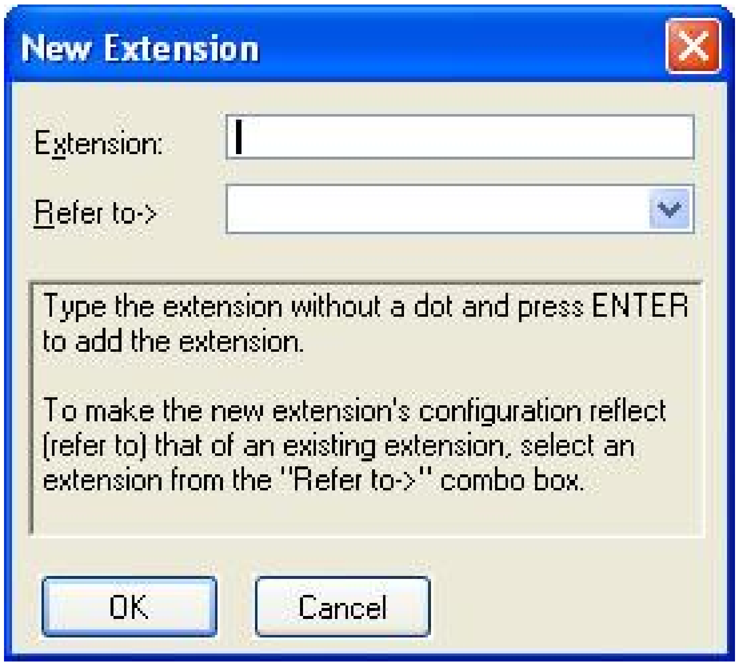
When an extension refers to another extension, both extensions operate exactly the same. That is, all Context Tagging®, template editing, word processing options, and all other extension options are the same. In addition, modifying the extension option information for either extension updates both extensions. For example, by default, the H and CPP extensions refer to the C file extension. Modify the H or CPP extension setup to modify the extension setup for all three extensions. In addition, the H and CPP extensions use the same Context Tagging settings as the C extension.

To have the setup data for one extension refer to another extension, click the **Refer to** button (located at the top right corner of the Extension Options dialog box). This button is unavailable if other extensions already refer to this one. **Refer to** is also available on the New Extension dialog box to set when adding a new extension.

Creating a New Extension

If SlickEdit® Core does not provide options for a language extension that you are working with, you can add the extension. On the Extension Options dialog, click the **New** button, and the following dialog is displayed.

Figure 7.2. New Extension Dialog



Type the extension without a dot and press ENTER to add the extension.

To make the new extension's configuration reflect (refer to) that of an existing extension, select an extension from the "Refer to->" combo box.

Enter the new extension in the **Extension** text box (without the Dot). If the language is similar to another language that is already available, and you wish to have the new language configuration the same as an existing one, you can select the language to refer to from the **Refer to** combo box.

After a new extension is added, you can change its reference at any time by selecting it from the **Extension** drop-down list on the Extension Options dialog, and then by clicking the **Refer to** button. See Referring to Extensions for more information.

Deleting an Extension

To delete the selected file extension's setup information, click the **Delete** button (located at the bottom of the Extension Options dialog box). The Fundamental extension setup information cannot be deleted. An extension such as C, that has other extensions (such as H and CPP) that refer to it, also cannot be deleted until all of the extensions that refer to it are deleted.

C and C++

This section describes some of the advanced features and options that are available in SlickEdit® Core for C and C++, including extension-specific formatting options, the C/C++ Beautifier, compiler settings, and preprocessing.

The default editing mode in SlickEdit Core for C and C++ allows for programming in either language. If you are coding to strict ANSI C standards, you should configure the value of the macro variable **def_ansic_exts** to contain a space-delimited list of extensions for files you want interpreted as ANSI C. To set the macro variable, press **Esc** to bring up the SlickEdit Core command line, then type **set-var def_ansic_exts "*`<extensions>`*"**, where ***`<extensions>`*** is the space-delimited list of extensions.

For example:

```
set-var def_ansic_exts "c h"
```

Please note that if you also code in C++ and any of these extensions are used for C++, they will be interpreted as ANSI C.

C/C++ Formatting Options

Options are available for C and C++ language file extensions for changing smart indenting and styles for template editing. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Make sure the C/C++ language extension you want to work with is selected in the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected is displayed.

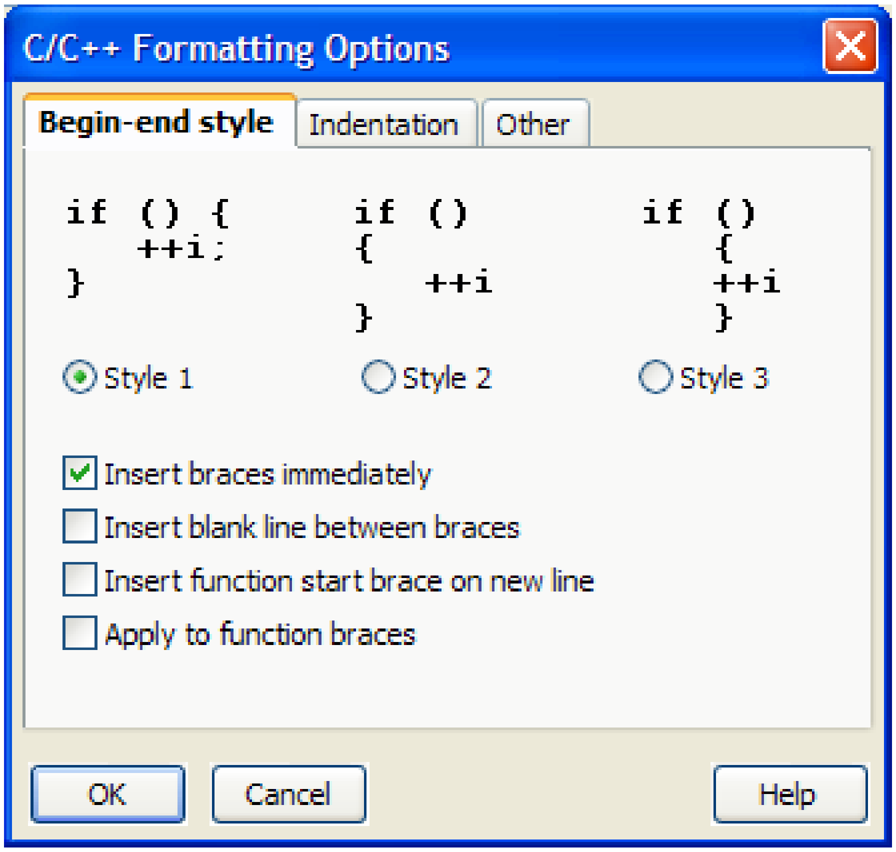
Note

Languages similar to C/C++ have similar Formatting Options dialogs which are not specifically documented.

The tabs on the C/C++ Formatting Options dialog are described below.

Begin-End Style Tab

Figure 7.3. C/C++ Formatting Options: Begin-end style Tab



```
if () {          if ()          if ()
    ++i;         {                {
}                    ++i          ++i
                 }                }
```

[✓ Style 1] Style 2 Style 3

[✓] Insert braces immediately
[ ] Insert blank line between braces
[ ] Insert function start brace on new line
[ ] Apply to function braces

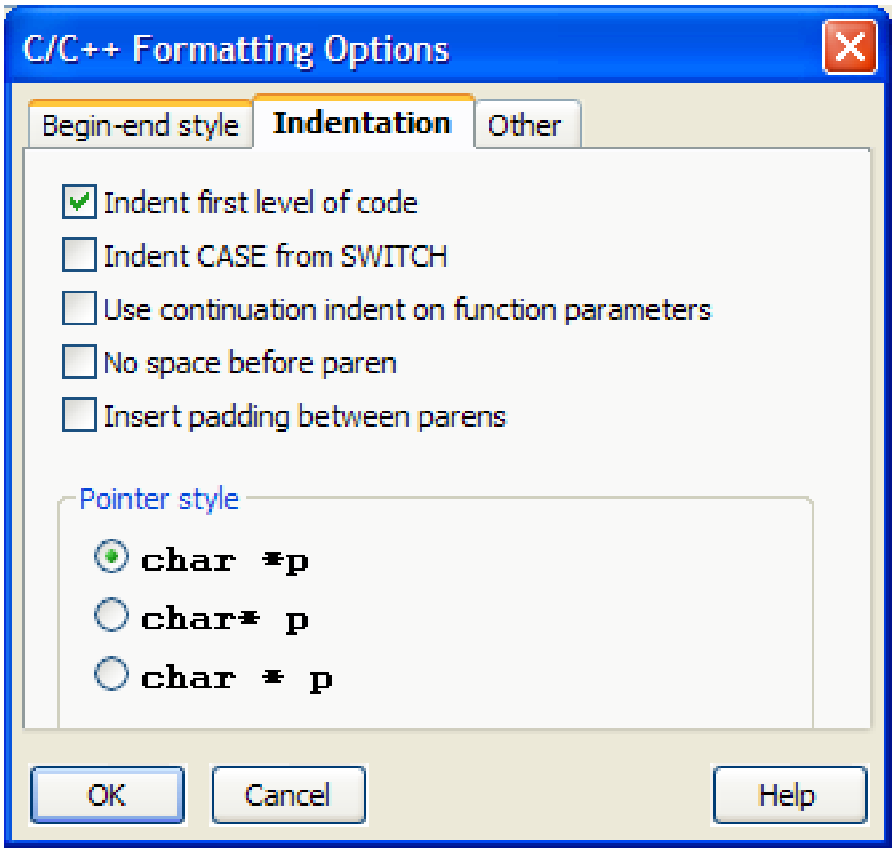
Use this tab to specify the brace style used by template editing and smart indenting. Choose the style you want to use then select from the following options:

- **Insert braces immediately** - Specifies whether template should be inserted with braces.
- **Insert blank line between braces** - Specifies whether a blank line should be inserted between braces when a template expands with braces.
- **Insert function start brace on new line** - Specifies whether a function start brace should be inserted after **Enter** is pressed to start a new line.
- **Apply to function braces** - When this option is selected, the your begin/end style will be applied to braces for function definition.

Indentation Tab

This tab is used to specify indentation options.

Figure 7.4. C/C++ Formatting Options: Indentation Tab


C/C++ Formatting Options

Begin-end style | Indentation | Other

[✓] Indent first level of code
[ ] Indent CASE from SWITCH
[ ] Use continuation indent on function parameters
[ ] No space before paren
[ ] Insert padding between parens

Pointer style
[● char *p]
○ char* p
○ char * p

The following options are available:

- **Indent first level of code** - Specifies whether smart indenting should indent the cursor after declarations such as functions.
- **Indent CASE from SWITCH** - When checked, template editing places the case statement indented from the switch statement column.
- **Use continuation indent on function parameters** - Determines whether function parameters should always use the continuation indent.

  By default, we format multi-line function parameters as follows:

  ```
  myLongMethodName(firstarg,
                   secondarg,
                   thirdarg
                  );
  myLongMethodName(
      firstarg,
      secondarg,
      thirdarg
      );
  ```

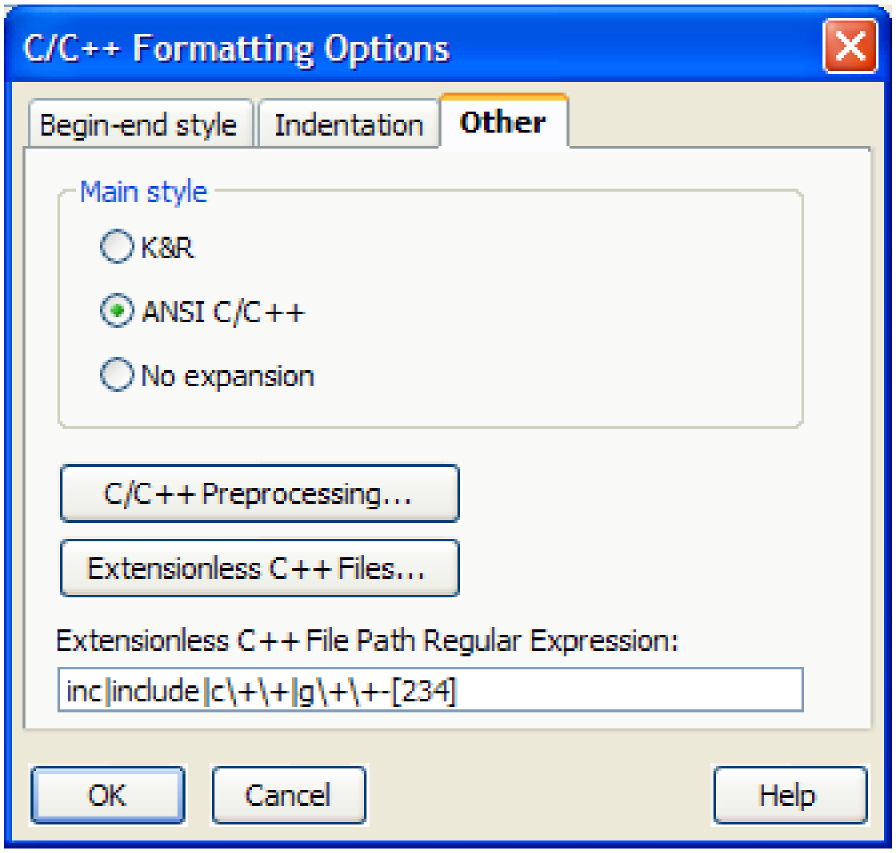
  If **Always use continuation indent on function parameters** is selected, the format will change as follows:

```
myLongMethodName(firstarg,
    secondarg,
    thirdarg
    );
myLongMethodName(
    firstarg,
    secondarg,
    thirdarg,
    );
```

- **No space before paren** - Determines whether a space is placed between a keyword such as **if**, **for**, or **while** and the open paren when syntax expansion occurs. Example: **(if(or if ()**.
- **Insert padding between parens** - When checked, a space is placed after the open paren, and before the close paren, providing padding for the enclosed text. For example, **if ()** becomes **if ( )**.
- **Pointer style** - Specify the pointer style you wish to use.

Other Tab

Figure 7.5. C/C++ Formatting Options: Other Tab



Main style

K&R

[✓ ANSI C/C++]

No expansion

Extensionless C++ File Path Regular Expression: inc|include|c\+\+|g\+\+-[234]

The following options are available:

- **Main style** - Specifies the **main** function declaration template inserted. Select **ANSI C/C++** if you want an old ANSI C main declaration inserted. You can define a template by using aliases, or you can write a replacement function for **c_insert_main**. The command **find-proc c_insert_main** will locate the macro source for this function.
- **C/C++ Preprocessing** - Click this button to customize the global preprocessing that is used when Context Tagging® creates tag files for C or C++. See C/C++ Preprocessing.
- **Extensionless C++ Files** - Click this button to add names of extensionless C++ header files. SlickEdit® Core takes care of the standard STL headers automatically, but you can use this to add additional compiler specific headers, such as **unodered_set** or **regex**. Note, this setting works in combination with the extensionless header file path regular expression (see below).
- **Extensionless C++ File Path Regular Expression** - In order for SlickEdit Core to safely recognize an extensionless C++ header file as C++ automatically, without accidently attempting to open other extensionless files (such as executables) as if they were C++, in addition to requiring that you specify the names of the files (see above), the path that the files are located in must match this regular expression.

C/C++ Beautifier

To beautify a C or C++ document, open the file you want to beautify, then from the main menu, click **Format** → **Beautify** (or use the **gui_beautify** command). The C/C++ Beautifier will be displayed, which allows you to make settings for how the code will be beautified.

You can use the commands **c_beautify** or **c_beautify_selection** to instantly beautify the file or the selection according to the settings on the Beautifier dialog.

Currently, this beautifier supports beautifying Slick-C® source if the statements are terminated with semicolons like C.

Note

The C#, Java, JavaScript, and Slick-C Beautifiers contain the same options and settings as the C/C++ Beautifier.

The following buttons and settings are available on the Beautifier:

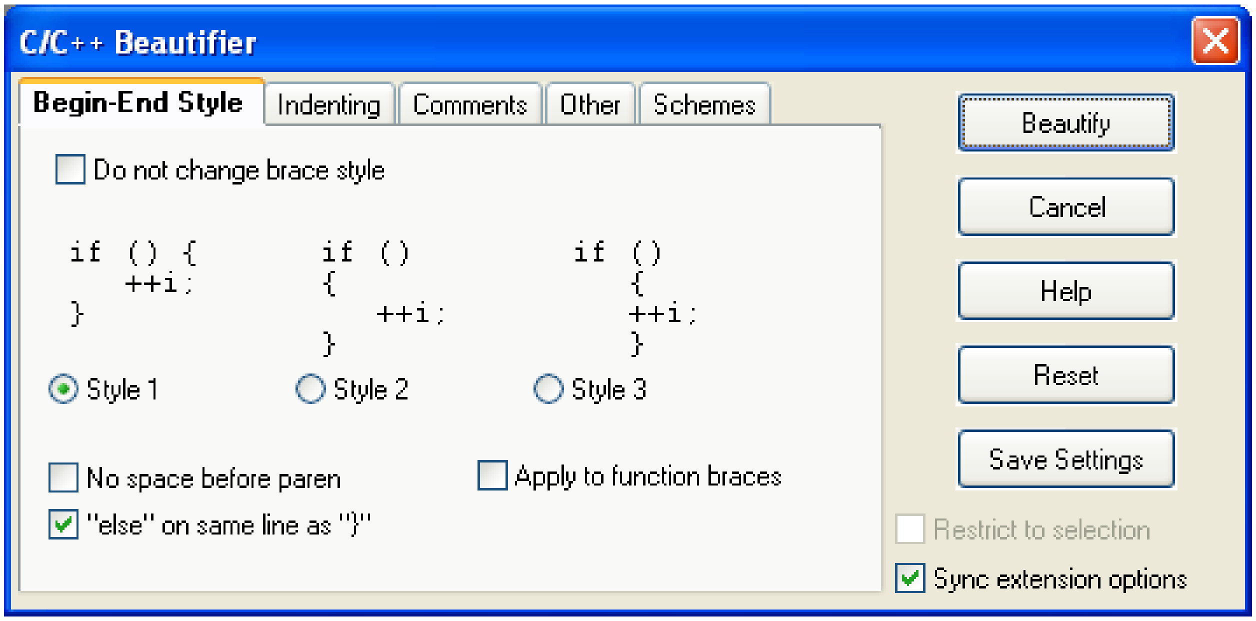
- **Beautify** - Beautifies current selection or buffer and closes the dialog box.
- **Reset** - Restores the dialog box settings to the values that appeared when you invoked the dialog.
- **Save Settings** - Saves beautify options in `uformat.ini` file. These settings are used by the **c_beautify** command.
- **Restrict to selection** - When this option is selected, only lines in the selection are beautified.

- **Sync extension options** - When this option is selected, the extension options are updated to reflect any changes that these dialogs have in common. For example, changing the begin-end style to **Style 2** will update your brace style for Syntax Expansion.

The tabs on the C/C++ Beautifier are described in the sections below.

Begin-End Style Tab

Figure 7.6. C/C++ Beautifier: Begin-End Style Tab



[ ] Do not change brace style

```
if () {          if ()            if ()
   ++i;          {                   {
}                   ++i;             ++i;
                 }                   }
```

[✓ Style 1] Style 2 Style 3

[ ] No space before paren
[ ] Apply to function braces
[✓] "else" on same line as "}"
[ ] Restrict to selection
[✓] Sync extension options

The following options and settings are available:

- **Do not change brace style** - Select this option if you do not want your brace style changed. This is useful if you are using a brace style that is not supported by SlickEdit® Core.
- **No space before paren** - Determines whether a space is placed between a keyword such as **if**, **for**, or **while** and the open paren.
- **else on same line as }** - When this option is selected, the beautifier will place **}** else on the same line. This is typical when using brace Style 1. The following is an example of using Style 1 with an **else** clause:

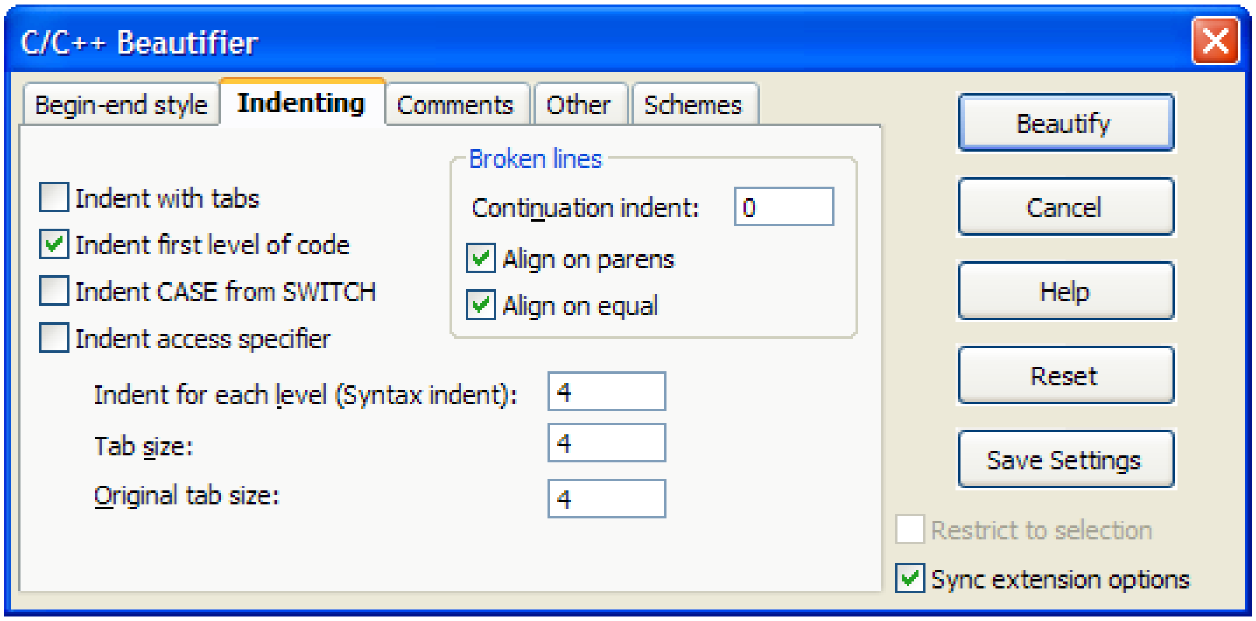
  ```
  if (i<j) {
  } else {
  }
  ```

- **Apply to function braces** - When this option is selected, the beautifier will apply your begin/end style to braces for function definition.

Indenting Tab

This tab provides indenting parameters that you can use when working with C/C++ files in SlickEdit® Core.

Figure 7.7. C/C++ Beautifier: Indenting Tab



C/C++ Beautifier

Begin-end style | Indenting | Comments | Other | Schemes

- [ ] Indent with tabs
- [✓] Indent first level of code
- [ ] Indent CASE from SWITCH
- [ ] Indent access specifier

Indent for each level (Syntax indent): 4

Tab size: 4

Original tab size: 4

Broken lines

Continuation indent: 0

- [✓] Align on parens
- [✓] Align on equal

Beautify | Cancel | Help | Reset | Save Settings

- [ ] Restrict to selection
- [✓] Sync extension options

The following options and settings are available:

- **Indent with tabs** - When this option is selected, tab characters are used for the leading indent of lines. This value defaults to the **Tabs** text box on the Indent Tab of the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting).
- **Indent first level of code** - Do not clear this check box. When this check box is selected, the first level of code inside a function or method definition is not indented.
- **Indent CASE from SWITCH** - When this option is selected, the case and default statements found inside switch statements are indented from the switch.
- **Indent access specifier** - When this option is selected, specifiers are indented under the class. When not selected, specifiers are aligned directly underneath the class.
- **Indent for each level (Syntax indent)** - The amount to indent for each new nesting level of code. We have put the words "Syntax indent" in parenthesis to help indicate that this field has the same meaning as the **Syntax indent** text box on the Indent Tab of the Extension Options dialog. By default, we initialize this text box with your current extension setup setting.
- **Tab size** - The value in this field specifies the output tab size. The output tab size is only used if the option **Indent with tabs** is selected on the Indent Tab of the Extension Options dialog. This value defaults

to the **Syntax indent** text box on the Indent Tab of the Extension Options dialog.

- **Original tab size** - The value in this field specifies the size of the original expansion tab. SlickEdit Core uses the expansion size of your original file to handle reusing indent amounts from your original file. Currently the beautifier only reuses the original source files indenting for comments. This option has no effect if the original file has no tab characters.
- **Continuation indent** - The value in this field specifies how much to indent lines of statements that continue to the next line. This has no effect on assignment statements or parenthesized expressions. Lines that are a continuation of an assignment statement are indented after the first equal sign. Lines that are a continuation of a parenthesized expression are indented after the open paren. Given the following example:

  ```
  unsigned
  int i;
  ```

  The result would be:

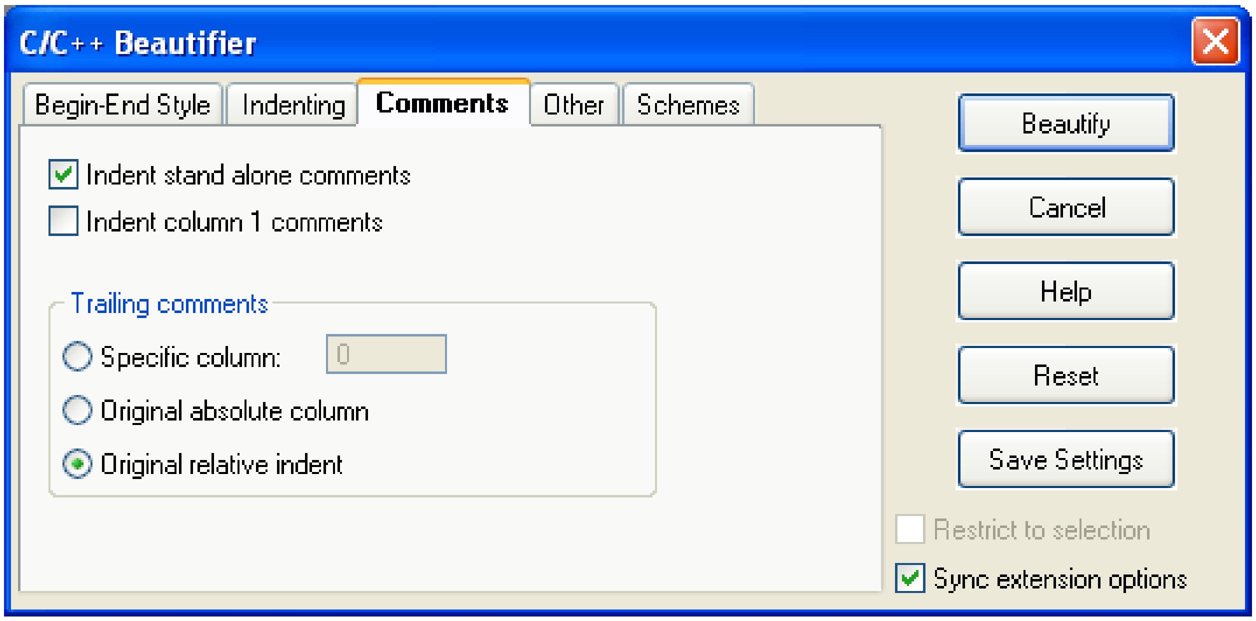
  ```
  unsigned
  <Continuation Indent>int i;
  ```

- **Align on parens** - When this option is selected, the text for parenthesized expressions that spans multiple lines is aligned on the first non-blank after the parenthesis or on the parenthesis itself.
- **Align on equal** - When this option is selected, the text for multi-line assignment is aligned on the first non-blank after the equals sign (**=**) or on the equal sign itself.

Comments Tab

This tab contains options for setting the parameters that you want for the trailing comments.

Figure 7.8. C/C++ Beautifier: Comments Tab



[✓] Indent stand alone comments
[ ] Indent column 1 comments

Trailing comments
( ) Specific column: 0
( ) Original absolute column
(●) Original relative indent

[ ] Restrict to selection
[✓] Sync extension options

The following options are available:

- **Indent stand alone comments** - Indicates whether comments that appear on lines by themselves with no statement text to the left are indented to the current statement indent level. For example:

```
/* stand alone
   comment
*/
// another stand alone comment
i=1;   // trailing comment
```

- **Indent column 1 comments** - Normally comments that start in column 1 are left alone. Select this option if you want the indent for these comments to be adjusted.
- **Specific column** - This text box specifies the column in which trailing comments should be placed. Trailing comments are comments that appear at the end of lines that contain statements or declarations. For example:

```
// another stand alone comment
/* stand alone
   comment
*/
i=1;   // trailing comment
if (x) {     /*  trailing
                 comment.
             */
}
```

- **Original absolute column** - When this option is selected, trailing comments are placed at the same column as the original source file. Trailing comments are comments that appear at the end of lines that contain statements or declarations.

- **Original relative column** - When this option is selected, trailing comments are indented by reusing the indent after the last character of the end of the statement or declaration of the original source file. Trailing comments are comments that are displayed at the end of lines that contain statements or declarations. For example, if the original code is as follows:

```
if () {
i=1;<four characters>//trailing comment
i=4;<four characters>/* trailing
                        comment.
                     */
}
```

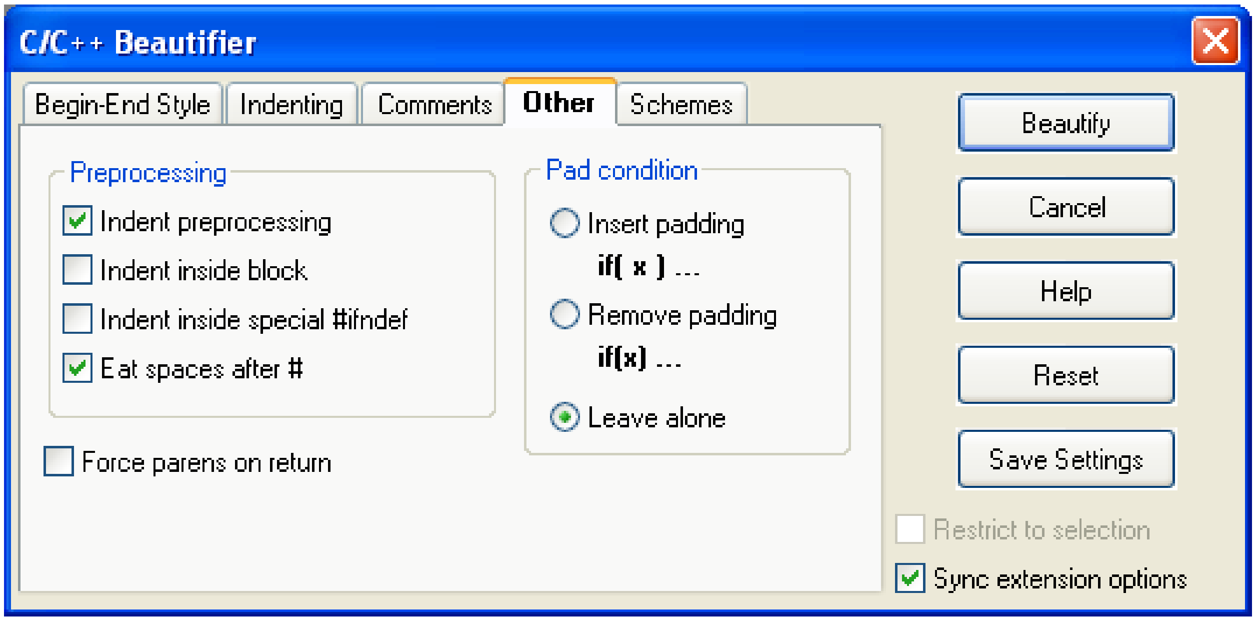
The resulting code would be:

```
if () {
   i=1;<four characters>//trailing comment
   i=4;<four characters>/* trailing
       <four characters>   comment.
       <four characters>*/
}
```

Other Tab

This tab contains the preprocessing and pad condition options.

Figure 7.9. C/C++ Beautifier: Other Tab



Preprocessing
- [✓] Indent preprocessing
- [ ] Indent inside block
- [ ] Indent inside special #ifndef
- [✓] Eat spaces after #

- [ ] Force parens on return

Pad condition
- ○ Insert padding `if( x ) ...`
- ○ Remove padding `if(x) ...`
- ● Leave alone

- [ ] Restrict to selection
- [✓] Sync extension options

The following options are available:

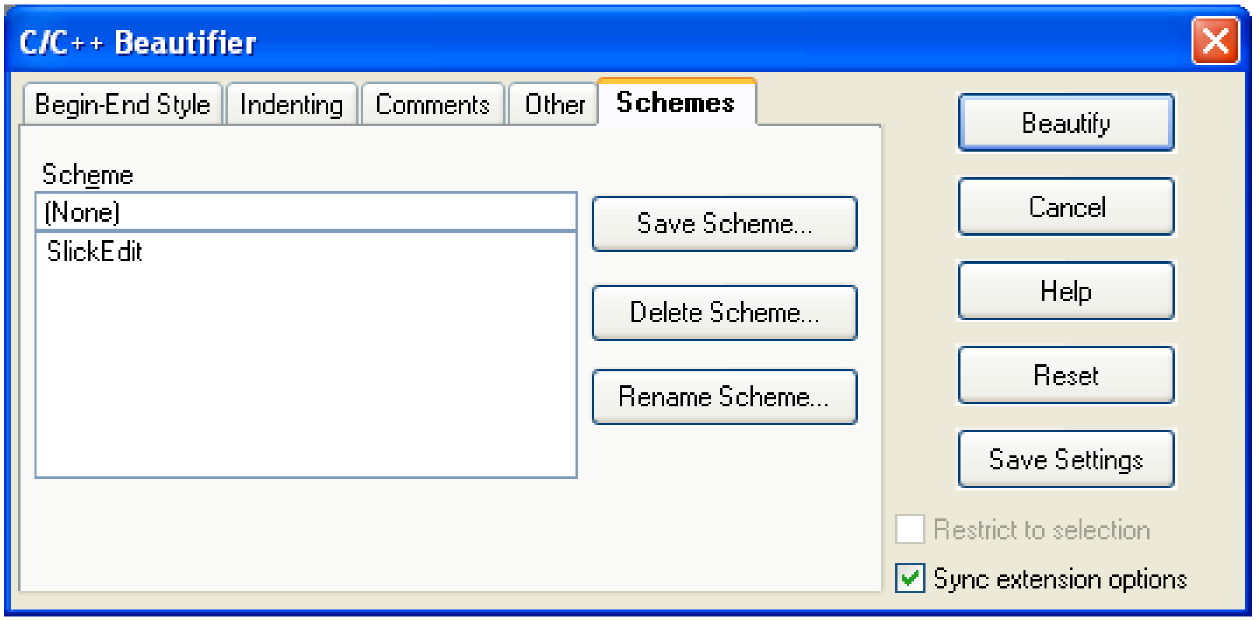
- **Indent preprocessing** - When this option is selected, the indent before the # character of preprocessing is set to indicate the preprocessing nesting level.
- **Indent inside block** - When this option is selected, preprocessing inside brace block is indented when inside preprocessing. Otherwise, preprocessing within a brace block start in column 1.
- **Indent inside special #ifndef** - Many C/C++ header files starts with the following lines of code:

  ```
  #ifndef myheader_h
  #define myheader_h

  #endif
  ```

  When this option is selected, preprocessing inside this special #ifndef case is indented.
- **Eat spaces after #** - When this option is selected, the spaces after a preprocessor #, but before the keyword (**if**, **ifdef**, **else**, **elif**, **endif**, etc.), are removed. This is useful for fixing old C code where the # character had to start in column 1 and spaces were used after the # to indicate the nesting level.
- **Force parens on return** - When this option is selected, parentheses are added to returns statements which do not have parentheses.
- **Pad condition** - These options indicate if parenthesized conditional expressions should have their spacing adjusted.

Schemes Tab

Figure 7.10. C/C++ Beautifier: Schemes Tab



Scheme
(None)
SlickEdit

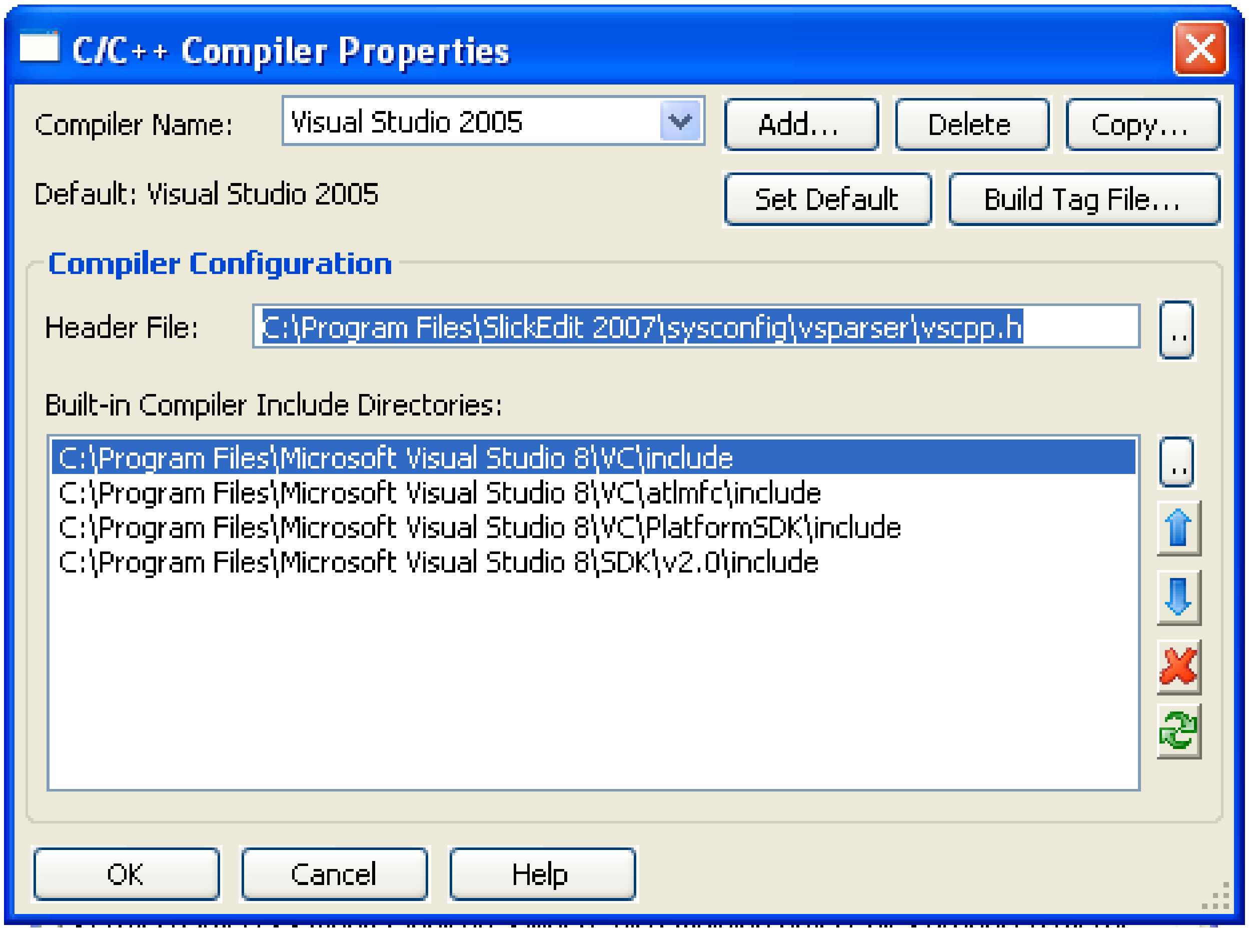
☐ Restrict to selection
☑ Sync extension options

To define a new scheme, set the various beautify options, and press the **Save Scheme** button. User defined schemes are stored in `uformat.ini`.

C/C++ Compiler Settings

In order to correctly perform full preprocessing, parsing, symbol analysis, and cross-referencing, SlickEdit® Core needs to emulate the implementation-specific parsing behavior of your compiler, including built-in functions, preset #defines, and include directories. This is accomplished by using the C/C++ Compiler Properties dialog box, shown below. To access the dialog, click **C/C++ Refactoring** → **C/C++ Compiler Options**.

Figure 7.11. C/C++ Compiler Properties Dialog



Compiler Name: Visual Studio 2005

Default: Visual Studio 2005

Header File: C:\Program Files\SlickEdit 2007\sysconfig\vsparser\vscpp.h

Built-in Compiler Include Directories:

C:\Program Files\Microsoft Visual Studio 8\VC\include
C:\Program Files\Microsoft Visual Studio 8\VC\atlmfc\include
C:\Program Files\Microsoft Visual Studio 8\VC\PlatformSDK\include
C:\Program Files\Microsoft Visual Studio 8\SDK\v2.0\include

The C/C++ Compiler Properties dialog displays not only the chosen compiler, but also the associated header file and include directories. Collectively, this is a configuration. Configurations can be created and modified as needed.

In the **Compiler Name** drop-down list, select the compiler you wish to use. If this is to be the global default compiler for all projects, click the **Set Default** button.

Note

It is possible to select other compilers for individual projects. In those cases, the project-specific compiler is used and overrides the global default.

SlickEdit Core ships with header files for each compiler, and the correct header file will appear in the **Header File** field. The header file configures the parser to emulate the compiler that is chosen in the **Compiler Name** field.

Creating New Configurations

There are two ways to begin a new configuration. In both cases, a dialog box will be invoked, prompting for the name of the new configuration.

- Click **Copy** to copy the selected compiler configuration. This can be used as a template for creating a new configuration and makes the process of creating similar configurations more convenient.
- Or, click **Add** to create a configuration from scratch or to add a newly installed compiler.

If you wish to remove the selected compiler and associated configuration from the list, click **Delete**. This does not delete any files from disk.

Building the Tag File

The **Build tag file** button on the C/C++ Compiler Properties dialog is used to build tag files from the header file found in the include directories for the selected compiler configuration. This is especially useful when new configurations are created. If you do not build the tag file here manually, it will be built on demand.

C/C++ Preprocessing

Typically your source code base will include preprocessor macros that you use in your code for portability or convenience. For performance considerations, Context Tagging® does not do full preprocessing, so macros that interfere with normal C++ syntax can cause the parser to miss symbols. For example:

```
MYNAMESPACEDECL(my)
struct MYPACKEDMACRO BinaryTree {
   MYTYPELESS data;
   MYPOINTER(BinaryTree) next;
   MYPOINTER(BinaryTree) prev;
};
MYPOINTER(BinaryTree) proot = MYNULL;
MYENDNAMESPACE
```

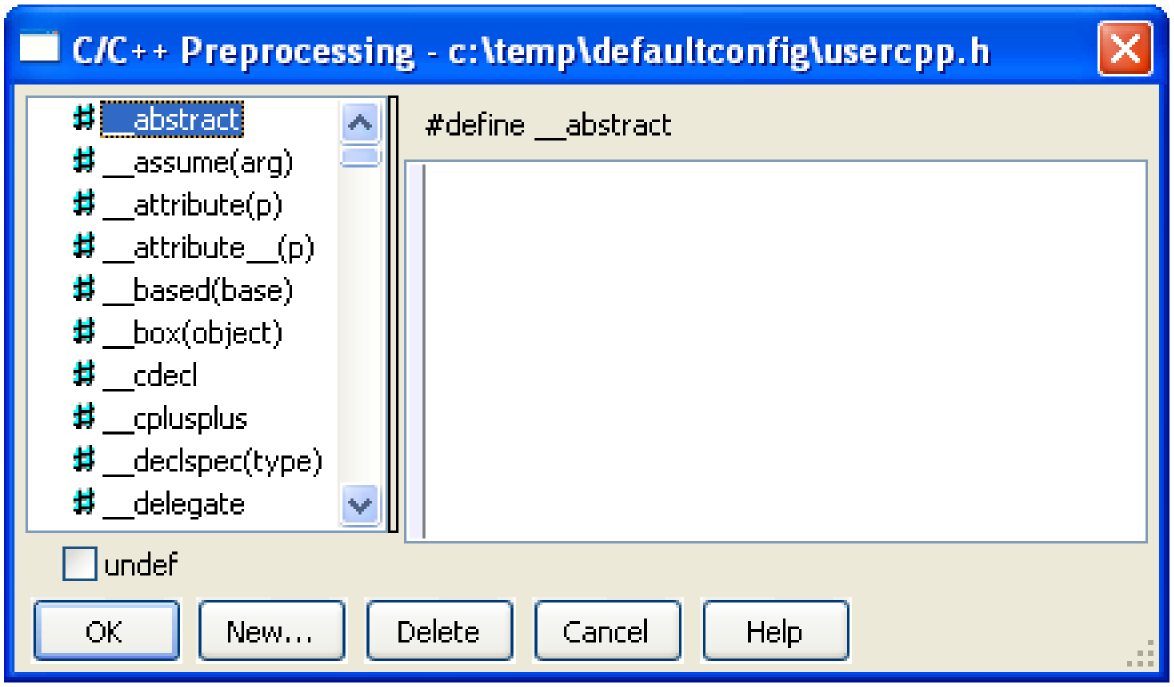
This example uses the following preprocessor macros:

```
#define MYNAMESPACEDECL(name)  namespace name {
#define MYPACKEDMACRO          __packed
#define MTYPELESS              void*
#define MYPOINTER(t)           t*
#define MYNULL                 ((void*)0)
#define MYENDNAMESPACE         }
```

Among them, the only two that are harmless are MYTYPELESS and MYNULL, because they just create name aliases for types or constants. However, the other four are troublesome and cause the entire code snippet to be unparsable unless you configure SlickEdit Core to be aware of these preprocessor macros. To do so, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. The Extension Options dialog is displayed.
2. From the **Extension** drop-down list, select the **C** extension.
3. Click the **Options** button at the bottom of the dialog. The C/C++ Formatting Options dialog is displayed.
4. Select the **Other** tab.
5. Click the **C/C++ Preprocessing** button to display the C/C++ Preprocessing dialog.

Figure 7.12. C/C++ Preprocessing Dialog


C/C++ Preprocessing - c:\temp\defaultconfig\usercpp.h

__abstract
__assume(arg)
__attribute(p)
__attribute__(p)
__based(base)
__box(object)
__cdecl
__cplusplus
__declspec(type)
__delegate

#define __abstract

6. Click **New** to add new preprocessing macros. Arguments are allowed; for example, **mymacro(a,b,c)**

7. When finished, click **OK**.

8. A prompt appears asking whether to rebuild your workspace tag file. Click **Yes**.

Preprocessor macros are stored in `usercpp.h`, located in your configuration directory. Rather than using the dialog, you can add large numbers of #defines directly to this file. You may want to make sure that your entire development team has an up-to-date copy of this configuration file once you have added all of your local preprocessor macros.

Note

The `usercpp.h` file should only be used for #defines and #undefs—not #includes.

Java

This section describes some of the features and options that are available for Java, including extension-specific options, the Javadoc Editor, and more.

Java Formatting Options

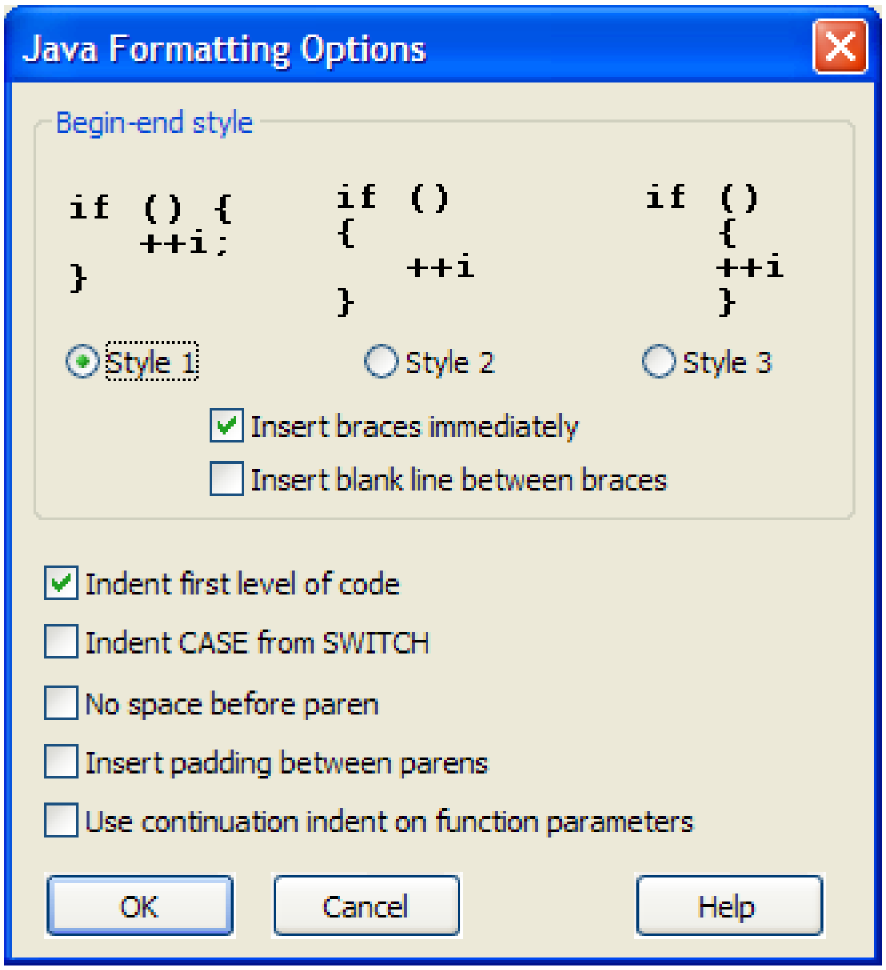
Options are available for Java language file extensions for changing the smart indenting and template editing style settings. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the language extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected will be displayed.

Note

Languages similar to Java have similar Formatting Options dialogs which are not specifically documented.

The Java Formatting Options dialog is pictured below.

Figure 7.13. Java Options Dialog


Java Formatting Options
Begin-end style

```
if () {
    ++i;
}
```

```
if ()
{
    ++i
}
```

```
if ()
    {
    ++i
    }
```

[✓ Style 1] Style 2 Style 3
[✓] Insert braces immediately
[ ] Insert blank line between braces
[✓] Indent first level of code
[ ] Indent CASE from SWITCH
[ ] No space before paren
[ ] Insert padding between parens
[ ] Use continuation indent on function parameters
OK
Cancel
Help

The following settings are available:

- **Begin-End Styles** - Specify the brace style to be used for template editing and smart indenting, then choose from the following options:
  - **Insert braces immediately** - Specifies whether template should be inserted with braces.
  - **Insert blank line between braces** - Specifies whether a blank line should be inserted between braces when a template expands with braces.
- **Indent first level of code** - Specifies whether smart indenting should indent the cursor after declarations such as functions.
- **Indent CASE from SWITCH** - When checked, template editing places the case statement indented from the switch statement column.
- **No space before paren** - Determines whether a space is placed between a keyword such as **if**, **for**, or **while** and the open paren when syntax expansion occurs. Example: **(if(or if ()**
- **Insert padding between parens** - When checked, a space is placed after the open paren, and before the close paren, providing padding for the enclosed text. For example, **if ()** becomes **if ( )**.

- **Use continuation indent on function parameters** - Determines whether function parameters should always use the continuation indent.

  By default, we format multi-line function parameters as follows:

```
myLongMethodName(firstarg,
secondarg,
thirdarg
);
myLongMethodName(
    firstarg,
    new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            createdButtonFired(buttonIndex);
        }
    },
    thirdarg
    );
myLongMethodName(new ActionListener() {   // special case anonymous class
first argument
        public void actionPerformed(ActionEvent e) {
            createdButtonFired(buttonIndex);
        }
    },
    secondarg,
    thirdarg
    );
myLongMethodName(
    secondarg,
    new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            createdButtonFired(buttonIndex);
        }
    },
    thirdarg
    );
```

  If **Use continuation indent on function parameters** is selected, the format will change as follows:

```
myLongMethodName(firstarg,
    secondarg,
    thirdarg
    );
myLongMethodName(
    firstarg,
    new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            createdButtonFired(buttonIndex);
        }
    },
    thirdarg
    );
myLongMethodName(new ActionListener() {   // special case anonymous class
first argument
        public void actionPerformed(ActionEvent e) {
            createdButtonFired(buttonIndex);
        }
    },
    secondarg,
    thirdarg
    );
```

Java Beautifier

To beautify Java source code, from the main menu click **Format** → **Beautify** (or use the **gui_beautify** command). The Java Beautifier dialog appears, where you can specify preferences for how the code is beautified. The Java Beautifier contains the same options and settings as the C/C++ Beautifier. See C/C++ Beautifier for more information.

Javadoc Beautifier

To beautify Javadoc comments or set up Javadoc Beautifier options, first invoke the Javadoc Editor by right-clicking within the edit window and selecting **Edit Javadoc Comments**. Then click the **Options** button. The Javadoc Beautifier Options dialog is displayed. The following settings are available:

- **Align parameter comments to longest parameter name** - If checked, the parameters are aligned to the length of the longest parameter name. If the parameter name length is less than the minimum length, the minimum length is used. If the parameter length is longer than the maximum parameter length, the description for the parameter will start on the next line.
- **Align exception comments to longest exception name** - If checked, the exceptions are aligned to the length of the longest exception name. If the exception name length is less than the minimum length, the minimum length is used. If the exception length is longer than the maximum exception length, the description of the parameter will start on the next line.
- **Align return comments** - Indicates whether @return comments should be aligned to the first line of comment text. No alignment is performed if tags which are indent-sensitive such as the **<pre>** tag are used.
- **Align deprecated comments** - Indicates whether @return comments should be aligned to the first line of comment text. No alignment is performed if tags which are indent-sensitive such as the **<pre>** tag are used.

- **Add blank line after parameter comment** - If checked, a blank line is added if a tag follows an @param tag.
- **Add blank line after parameter comment group** - If checked, a blank line is added if a tag follows an @param group.
- **Add blank line after return comment** - If checked, a blank line is added if a tag follows the @return tag.
- **Add blank line after description** - If checked, a blank line is added between the description and the first @ tag. This option is ignored if the description contains a custom or unsupported @ tag.
- **Add blank line after example** - If checked, a blank line is added if a tag follows the @example tag.

Javadoc Editor

Use the Javadoc Editor to generate Javadoc syntax comments for Java, C, C++, JavaScript, and Slick-C®. To access the Javadoc Editor, right-click within the edit window and select **Edit Javadoc Comments**.

To add a custom or unsupported tag, append the tag (with an @ prefix) and its description into the **Description** text box. You can add @serial, @serialField, and @serialData fields this way.

For more information, see Sun's Javadoc documentation at *http://java.sun.com*.

Organizing Java Imports

Organizing imports automates the management of import statements in Java files. This feature minimizes the amount of time that it takes to compile code by only importing the classes that are used. Existing import statements are also sorted in a readable format and are more consistent between different Java packages in the same project. Organizing of imports is applied to an entire file. To organize imports, from the right-click context menu in the editor, click **Imports** → **Organize Imports**.

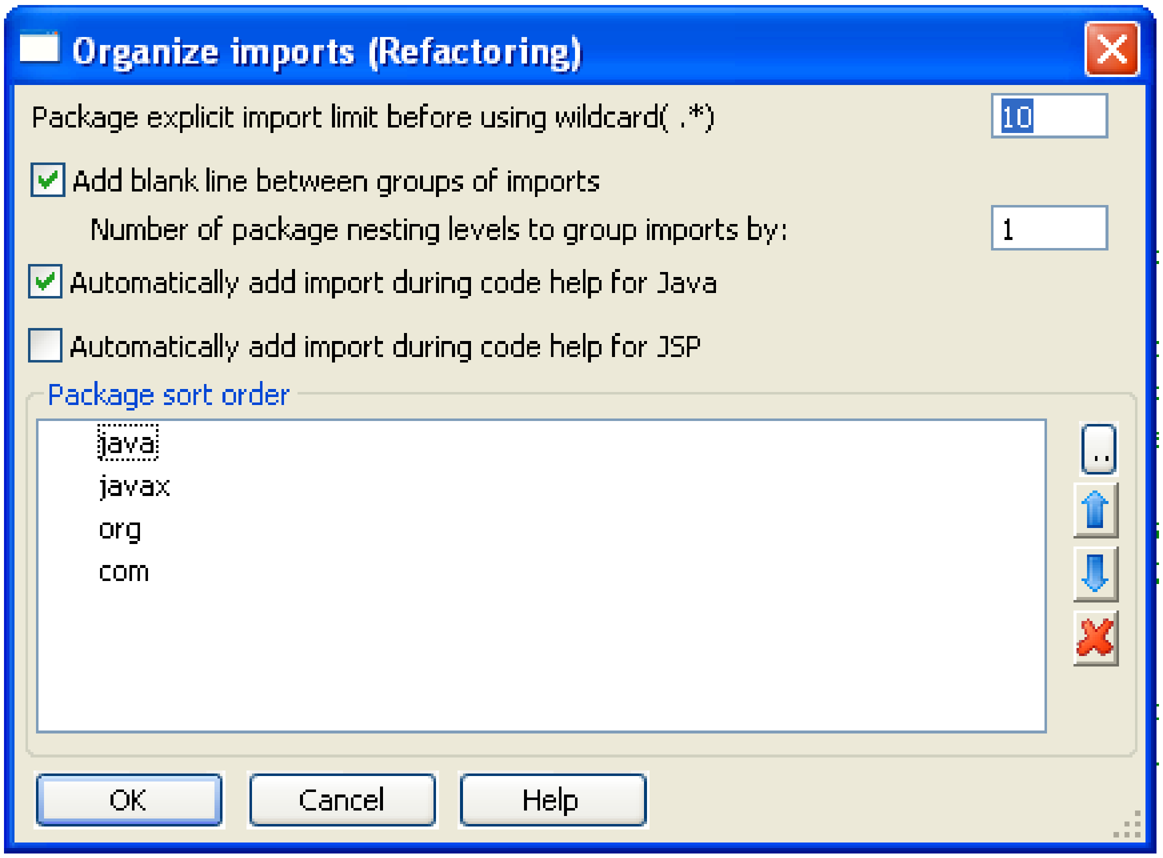
Adding Imports

Add Import is used to add an import statement for the class name under the cursor in Java code. To invoke this feature, move the cursor to the class name you want to import, then on the editor's right-click context menu, click **Import** → **Add Import**.

Import Options

The behavior of the Organize Imports and Add Import features is controlled by the options on the Organize Imports Options dialog box, pictured below. To open this dialog, on the editor's right-click context menu, click **Imports** → **Options**. For a list with descriptions of the options on this dialog, see Organize Imports Options Dialog.

Figure 7.14. Organize Imports Dialog



Package explicit import limit before using wildcard(.*) 10

[✓] Add blank line between groups of imports

Number of package nesting levels to group imports by: 1

[✓] Automatically add import during code help for Java

[ ] Automatically add import during code help for JSP

Package sort order

java
javax
org
com

Java Refactoring

See Java Refactoring for information about Java refactoring in SlickEdit® Core.

XML and HTML

Features for XML and HTML are described below. See also XML/HTML Formatting.

XML

XML features in SlickEdit® Core include Context Tagging®, validation, well-formedness checking, a beautifier, Color Coding, URL Mapping, Syntax Expansion, and Syntax Indenting for XML, XSLT, and schemas (DTD or XSD).

XML Formatting Options

Content in XML and HTML files may be set to automatically wrap and format as you edit, through the XML/HTML Formatting feature. See XML/HTML Formatting for complete information.

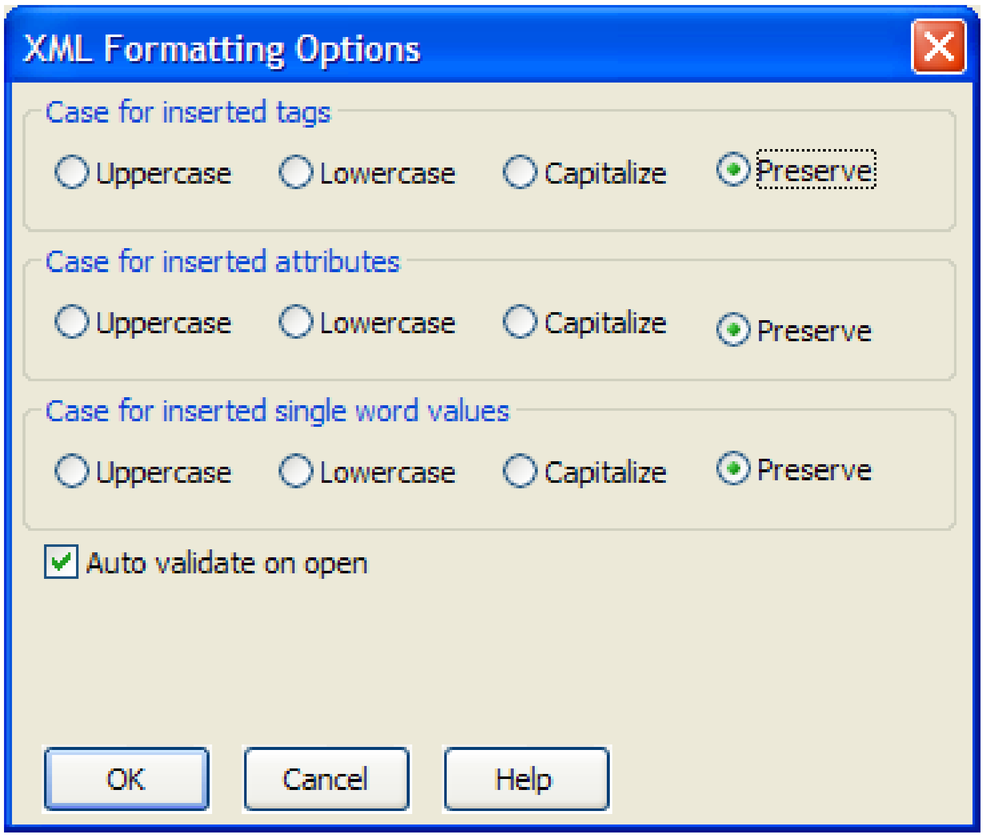
Other miscellaneous tag and attribute options are still provided through the XML Formatting Options dialog. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, choose **xml** from the **Extension** drop-down list, then click the **Options** button. The XML Formatting Options dialog is displayed.

Tip

You can also display the XML Formatting Options dialog by clicking the **XML Options** button on the XML/HTML Formatting Scheme Configuration dialog (click **Window** → **Preferences**, expand **Slickedit** and click **General** in the tree, then double-click the **XML/HTML Formatting** setting.

The XML Formatting Options dialog is shown below.

Figure 7.15. XML Formatting Options Dialog



Case for inserted tags

Uppercase Lowercase Capitalize [✓ Preserve]

Case for inserted attributes

Uppercase Lowercase Capitalize [✓ Preserve]

Case for inserted single word values

Uppercase Lowercase Capitalize [✓ Preserve]

[✓ Auto validate on open]

The following settings are available:

- **Case for inserted tags** - This option is to specify if you want your tag names to be lowercase or uppercase. For example, if you select **Uppercase**, then <tag> would become <TAG>. Under normal circumstances, preserve the case of your XML tags, but for certain special cases (e.g. XHTML) you might want to change this setting.
- **Case for inserted attributes** - This option is to specify if you want attributes cased inside the body of a tag. For example, if you select **Uppercase**, then <td align=right> becomes <td ALIGN=right>. Under normal circumstances, preserve the case of your XML attributes, but for certain special cases (e.g. XHTML) you might want to change this setting.
- **Case for inserted single word values** - This option is to specify if the case used when inserting the single word values that appear after the equals sign of an attribute inside the body of a tag. This affects any attribute that has an enumerated type for its attribute values. Under normal circumstances you will want to preserve the case of your XML single word values, but for certain special cases (e.g. XHTML) you may want to change this setting.
- **Auto validate on open** - When this option is selected, XML files are automatically validated when they are opened. The result of the validation is displayed on the SlickEdit Core Output view.

XMLdoc Editor

Use the XMLdoc Editor to generate Microsoft XML syntax comments for C#, C, C++, Java, JavaScript, and Slick-C®. Note that by default, when creating a new comment, the Javadoc Editor is displayed for all file types except C#. To work around this limitation, start an XML comment with "///" and then right-click in the edit window and select **Edit XML Comments**.

Unknown XML tags are left "as is" and not removed.

XML Beautifier

To beautify XML source code, from the main menu click **Format** → **Beautify** (or use the **gui_beautify** command). The XML Beautifier dialog appears, where you can specify preferences for how the code is beautified.

Caution

The XML Beautifier is not affected by XML/HTML Formatting. If you run the beautifier on documents that have been automatically formatted through XML/HTML Formatting, you may find unexpected results.

You can use the commands **xml_beautify** or **xml_beautify_selection** to instantly beautify the file or the selection according to the settings on the Beautifier dialog.

Note

The XSD Beautifier contains the same options and settings as the XML Beautifier.

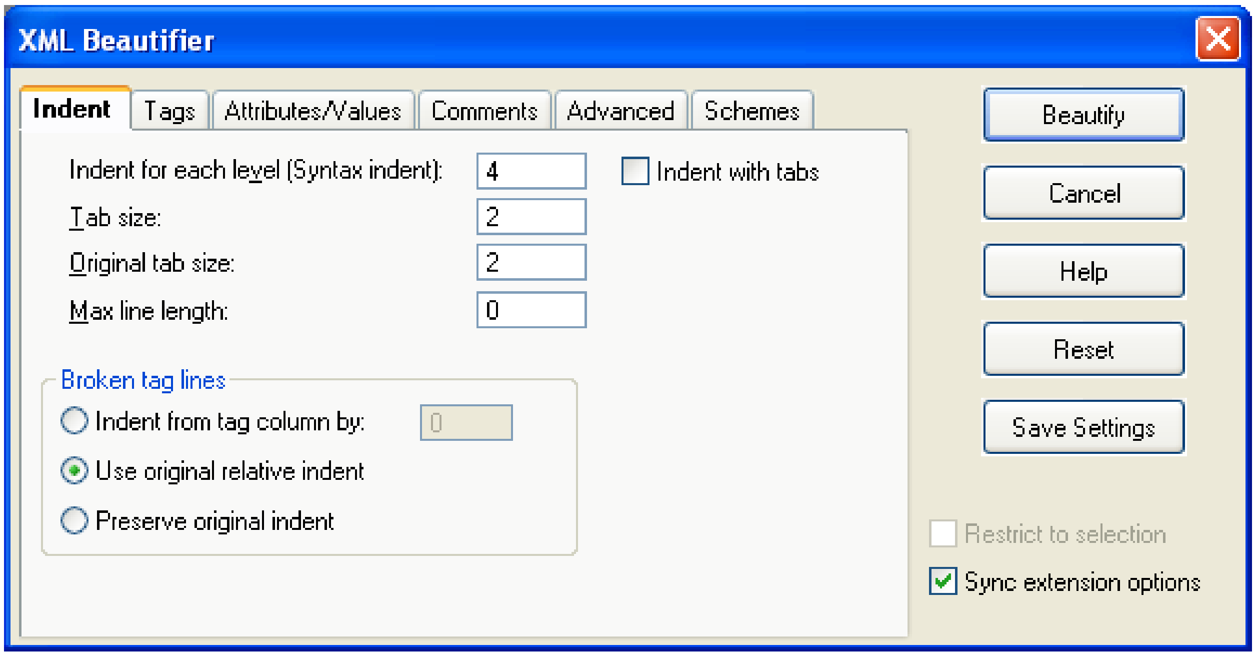
The following buttons and options are available on the Beautifier:

- **Beautify** - Beautifies current selection or buffer and closes the dialog box.
- **Reset** - Restores the dialog box settings to the values that appeared when you invoked the dialog.
- **Save Settings** - Saves beautify options in `uformat.ini` file. These settings are used by the **xml_beautify** command.
- **Restrict to selection** - When on, only lines in the selection are beautified.
- **Sync extension options** - When on, the extension options are updated to reflect any changes that these dialogs have in common.

The tabs on the XML Beautifier are described in the sections below.

Indent Tab

Figure 7.16. XML Beautifier: Indent Tab



Indent for each level (Syntax indent): 4

[ ] Indent with tabs

Tab size: 2

Original tab size: 2

Max line length: 0

Broken tag lines

( ) Indent from tag column by: 0

(●) Use original relative indent

( ) Preserve original indent

[ ] Restrict to selection

[✓] Sync extension options

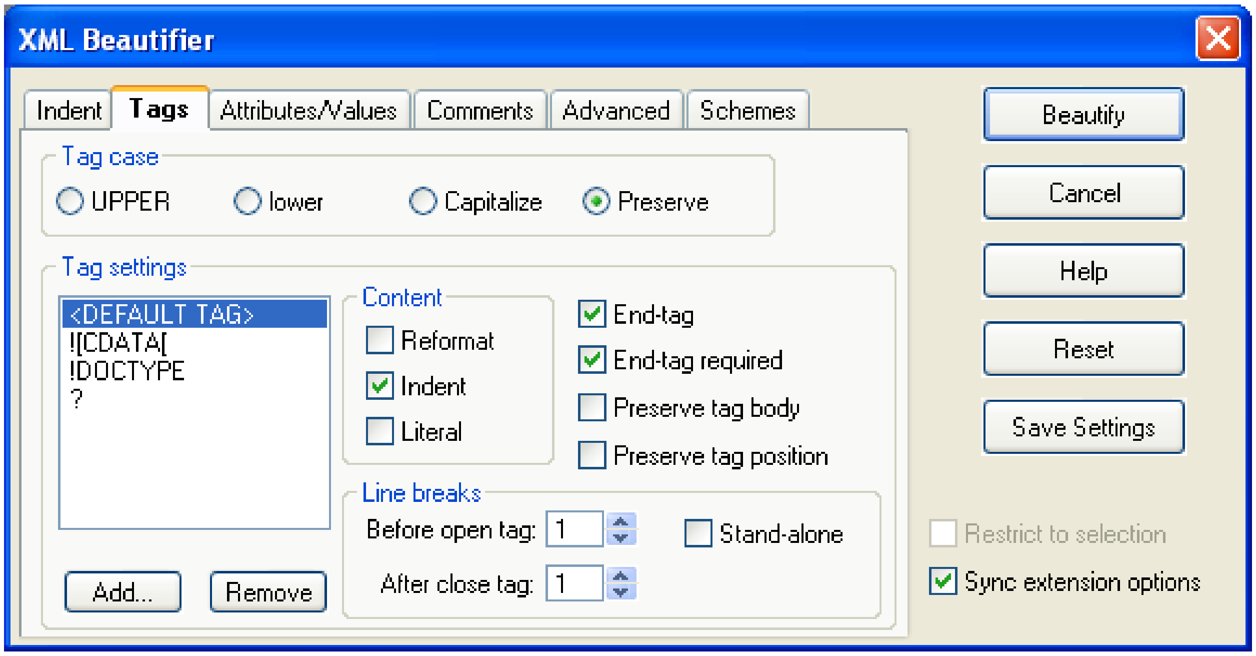
The following settings are available:

- **Indent for each level (Syntax indent)** - The amount to indent for each new nesting level of tags. We have put the words "Syntax indent" in parenthesis to help indicate that this field has the same meaning as the **Syntax indent** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab). By default, we initialize this text box with your current extension setup setting.
- **Indent with tabs** - When on, tab characters are used for leading indent of lines. This value defaults to the **Tabs** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab).
- **Tab size** - Specifies output tab size. The output tab size is only used if the **Indent with tabs** check box is on. This value defaults to the **Syntax indent** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab).
- **Original tab size** - Specifies what the original file's tab expansion size was. We need to know the tab expansion size of your original file to handle reusing indent amounts from your original file. Currently the beautifier only reuses the original source file's indenting for comments. This option has no effect if the original file has no tab characters.
- **Max line length** - Specifies the maximum length a line can be before it is wrapped to a new line. This max line length is relative to the current indent level. For example, if you were inside an XHTML <td> block which was at an indent level of 30, and your max line length was set to 80, then that line would not be wrapped until it reached a total length of 30+80=110 characters. Set this value to **0** if you want your line breaks preserved.

- **Broken tag lines** - Specify how broken tag lines are treated from the following options:
  - **Indent from tag column by** - Specifies the amount to indent for broken tag lines from the starting column of the tag. Specify **0** to align broken tag lines with the starting column of the tag.
  - **Use original relative indent** - Reindent broken tag lines using the original relative indent amount from the starting column of the tag.
  - **Preserve original indent** - Preserve the original absolute indent amount on broken tag lines.

Tags Tab

Figure 7.17. XML Beautifier: Tags Tab



Tag case: UPPER, lower, Capitalize, [✓ Preserve]

Tag settings:
<DEFAULT TAG>
![CDATA[
!DOCTYPE
?

Content: Reformat, [✓ Indent], Literal

[✓ End-tag]
[✓ End-tag required]
Preserve tag body
Preserve tag position

Line breaks:
Before open tag: 1
After close tag: 1
Stand-alone

Restrict to selection
[✓ Sync extension options]

The **Tags** tab contains the following options and settings:

- **Tag case** - Specifies how you want your tag names cased. For example, if you choose UPPER, then <tag> would be beautified to <TAG>. Under normal circumstances you will want to preserve the case of your XML tags, but for certain special cases (e.g. XHTML) you may want to change this setting.
- **Tag settings** - The settings in this group box apply to the tag that is selected in the list box. The <DEFAULT TAG> tag item in the list of tags specifies settings to use when no settings exist for a tag found during beautification.
- **Add** - Display the Add Tag dialog. This dialog allows you to add a tag definition to the list and specify how it will be beautified.
- **Remove** - Used to remove the currently selected tag.
- **Content** - Specify how to beautify content from the following options:

- **Reformat** - When off, all white space and line breaks are preserved. However, tags are formatted (tag case, attribute case, etc.).
- **Indent** - When on, nested tags will be indented one syntax indent level. Furthermore, if **Reformat** is on, the selected tag's CDATA content (i.e. plain text), bounded by the opening and closing tag, will be indented one syntax indent level.
- **Literal** - When on, all white space and line breaks are preserved. In addition, tags within the content are treated as literal text. If **Reformat** is on, then leading indent is adjusted. This option is useful for XHTML.

Tip

Some examples of content settings for specific tags are:

- **style** - **Literal** (content is indented to the same level as the <style> open tag)
- **style** - **Reformat**, **Literal** (content is indented one syntax indent level from the <style> open tag)
- **pre** - All **Content** check boxes off
- **blockquote** - **Reformat**, **Indent**

- **End tag** - When on, the selected tag has an end tag. For XML you will normally want this to remain on.
- **End tag required** - When on, the selected tag's ending tag is required. For XML you will normally want this to remain on.
- **Preserve tag body** - When on, all properties of the body of the tag selected will be preserved. This is especially useful for processing instructions like <?xml ... ?> where you do not want the embedded text to be beautified.
- **Preserve tag position** - When on, the position of the tag within the document is preserved. This is especially useful with JSP/ASP tags where reindenting the tag would interrupt the flow of the script code.
- **Line breaks** - Select the way lines are broken:
  - **Before open tag** - Specify the number of line breaks before the opening tag. For example, if you were to set the number of line breaks before the opening tag to **3** for the XHTML <td> tag, and the original content was:

    ```
    <tr>
    <td>
    </td>
    </tr>
    ```

    The resulting content would be:

```
<tr>


<td>
</td>
</tr>
```

Please note that the number of line breaks is not the same as the number of blank lines. If you wanted three blank lines, then you would set the number of line breaks to **4**.

- **After close tag** - Specify the number of line breaks after the closing tag. For example, if you were to set the number of line breaks after the closing tag to **3** for the XHTML <td> tag, and the original content was:

  ```
  <TR>
  <TD>
  </TD>
  </TR>
  ```

  The resulting content would be:

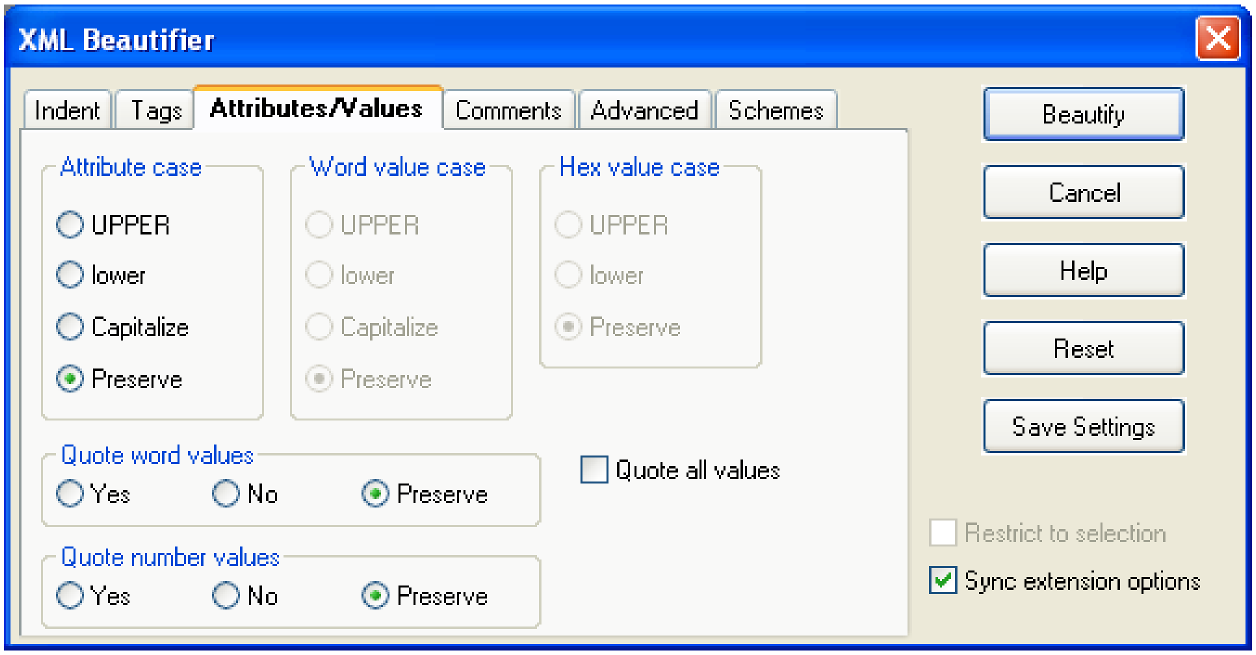
  ```
  <TR>
  <TD>
  </TD>


  </TR>
  ```

  Please note that the number of line breaks is not the same as the number of blank lines. If you wanted three blank lines, then you would set the number of line breaks to **4**.

- **Stand-alone** - When on, the selected tag will always have at least one preceding and trailing line break on both its opening and ending tag when beautified. You can specify that there be more than one line break by setting **Line breaks** for the opening and closing tags.

Attributes/Values Tab

Figure 7.18. XML Beautifier: Attributes/Values Tab


XML Beautifier

Indent | Tags | Attributes/Values | Comments | Advanced | Schemes

Attribute case: UPPER / lower / Capitalize / [✓ Preserve]

Word value case: UPPER / lower / Capitalize / [✓ Preserve]

Hex value case: UPPER / lower / [✓ Preserve]

Quote word values: Yes / No / [✓ Preserve]

Quote number values: Yes / No / [✓ Preserve]

☐ Quote all values

Beautify | Cancel | Help | Reset | Save Settings

☐ Restrict to selection

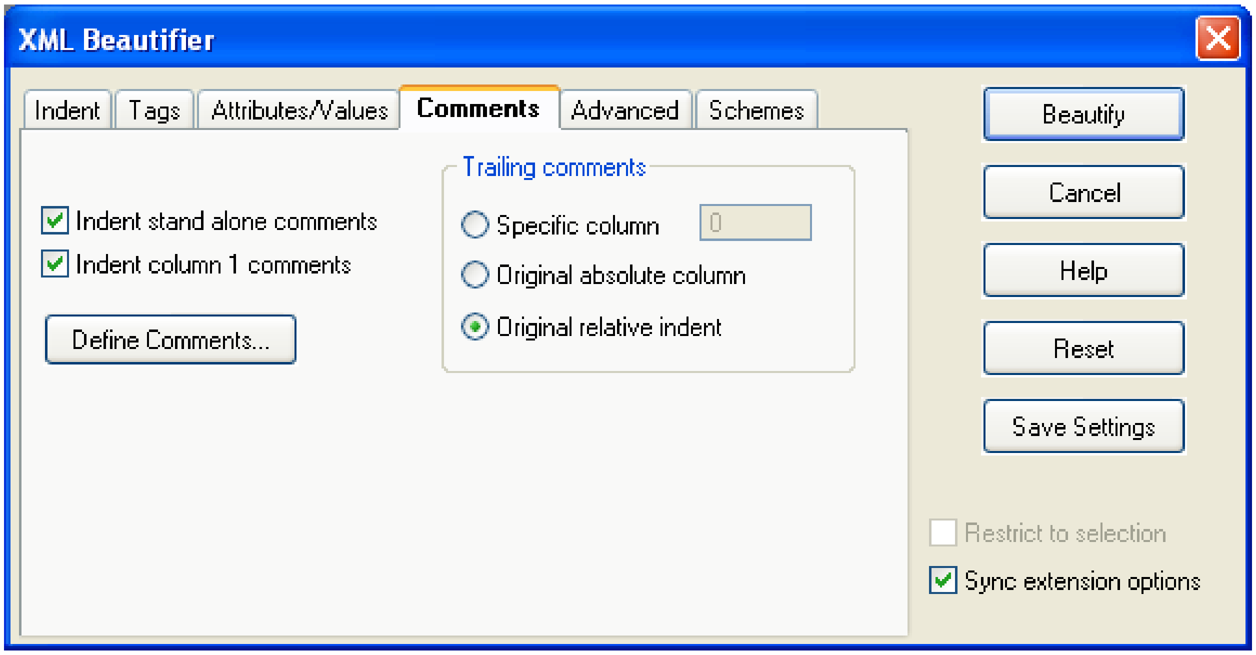
[✓] Sync extension options

The **Attributes/Values** tab contains the following settings:

- **Attribute case** - Specifies how you want attributes cased inside the body of a tag. For example, if you choose UPPER, then <td align="right"> would be beautified to <td ALIGN="right">. Under normal circumstances you will want to preserve the case of your XML attributes, but for certain special cases (e.g. XHTML) you may want to change this setting.
- **Word value case** - Not available for XML.
- **Hex value case** - Not available for XML.
- **Quote word values** - Specifies whether you want word values enclosed in double quotes after the = of an attribute inside the body of a tag. For example, <td align=right> would be beautified to <td align="right">. Select **Preserve** if you want word values left alone. Under normal circumstances you will want to preserve your XML values, but for certain special cases (e.g. XHTML) you may want to change this setting.
- **Quote number values** - Specifies whether you want number values enclosed in double quotes after the **=** of an attribute inside the body of a tag. For example, <td width=590> would be beautified to <td width="590">. Select **Preserve** if you want number values left alone. Under normal circumstances you will want to preserve your XML values, but for certain special cases (e.g. XHTML) you may want to change this setting.
- **Quote all values** - When on, all values will be quoted after the **=** of an attribute inside the body of a tag. For example, <td align=right> would be beautified to <td align="right">.Under normal circumstances you will want to preserve your XML values, but for certain special cases (e.g. XHTML) you may want to change this setting.

Comments Tab

Figure 7.19. XML Beautifier: Comments Tab


XML Beautifier

Indent | Tags | Attributes/Values | Comments | Advanced | Schemes

[✓] Indent stand alone comments
[✓] Indent column 1 comments

Define Comments...

Trailing comments
( ) Specific column 0
( ) Original absolute column
(●) Original relative indent

Beautify | Cancel | Help | Reset | Save Settings

[ ] Restrict to selection
[✓] Sync extension options

The **Comments** tab contains the following options and settings:

- **Indent stand alone comments** - When on, indicates whether comments which appear on lines by themselves with no content to the left are indented to the current content indent level. The following is an example of a stand-alone comment:

```
<!-- stand alone
     comment
-->
```

- **Indent column 1 comments** - Normally comments that start in column 1 are left alone. Turn this on if you want the indent for these comments to be adjusted as well.
- **Define Comments** - Displays the XML Comments dialog. This dialog allows you to define what the beautifier recognizes as a comment. The sequence **<!-- -->** is defined as the XML comment by default. If you delete all comment definitions then all comments will be parsed as content.
- **Trailing comments** - Specify how trailing comments are treated from the following options:
  - **Specific column** - This text box specifies the column that "trailing comments" should be placed at. By trailing comments, we mean comments which appear at the end of lines which contain tags. An example of a trailing comment is:

    ```
    <TD>   <!-- trailing comment -->
    ```

  - **Original absolute column** - When on, "trailing comments" are placed at the same column as the original source file. By trailing comments, we mean comments which appear at the end of lines which contain tags.

- **Original relative column** - When on, "trailing comments" are indented by reusing the indent after the last character of the end of the statement or declaration of the original source file. By trailing comments, we mean comments which appear at the end of lines which contain tags.

The following is an example of code before beautifying trailing comments:

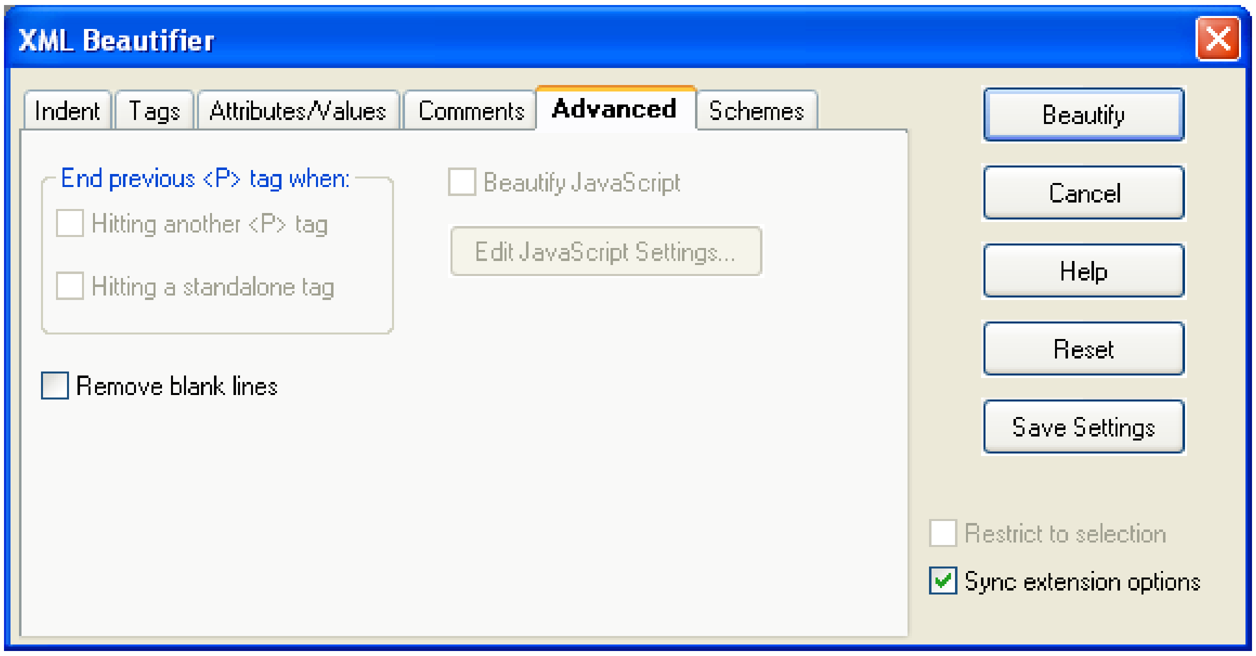
```
<Outer>
<Inner><four characters><!-- trailing comment -->
</Inner>
</Outer>
```

The resulting code would be:

```
<Outer>
  <Inner><four characters><!-- trailing comment -->
  </Inner>
</Outer>
```

Advanced Tab

Figure 7.20. XML Beautifier: Advanced Tab



XML Beautifier

Indent | Tags | Attributes/Values | Comments | **Advanced** | Schemes

End previous <P> tag when:
- [ ] Hitting another <P> tag
- [ ] Hitting a standalone tag

- [ ] Remove blank lines
- [ ] Beautify JavaScript

Edit JavaScript Settings...

Beautify | Cancel | Help | Reset | Save Settings

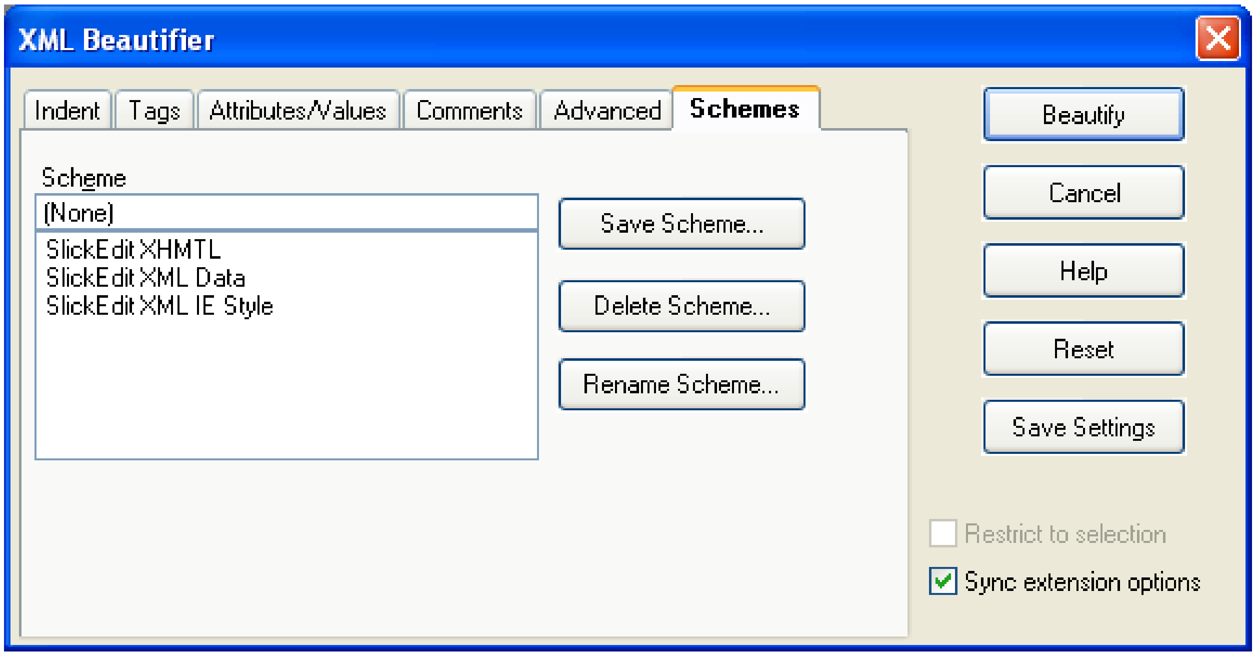
- [ ] Restrict to selection
- [✓] Sync extension options

The following option is available on the **Advanced** tab:

- **Remove blank lines** - When on, blank lines are deleted.

Schemes Tab

Figure 7.21. XML Beautifier: Schemes Tab



Scheme: (None)

SlickEdit XHMTL
SlickEdit XML Data
SlickEdit XML IE Style

[✓] Sync extension options

To define a new scheme, use the Beautifier to set the various beautify options and then press the **Save Scheme** button on the **Schemes** tab. User defined schemes are stored in `uformat.ini`.

DTD Caching

When you open an XML document that has a document type definition of (!DOCTYPE) that refers to a remote external DTD, the DTD file is downloaded and cached locally. The DTD is processed to provide Context Tagging® and better color coding. Currently, only HTTP (and not FTP) remote files are supported. This automatic caching allows you to work offline and edit XML documents that reference remote DTDs when you do not have an Internet connection. If you want to force re-caching of the DTD for the current XML document, right-click to open the context menu and select **Apply DTD changes**. Applying DTD changes is necessary after you create a new XML document and complete the document type definition (!DOCTYPE).

Opening DTD Files from XML

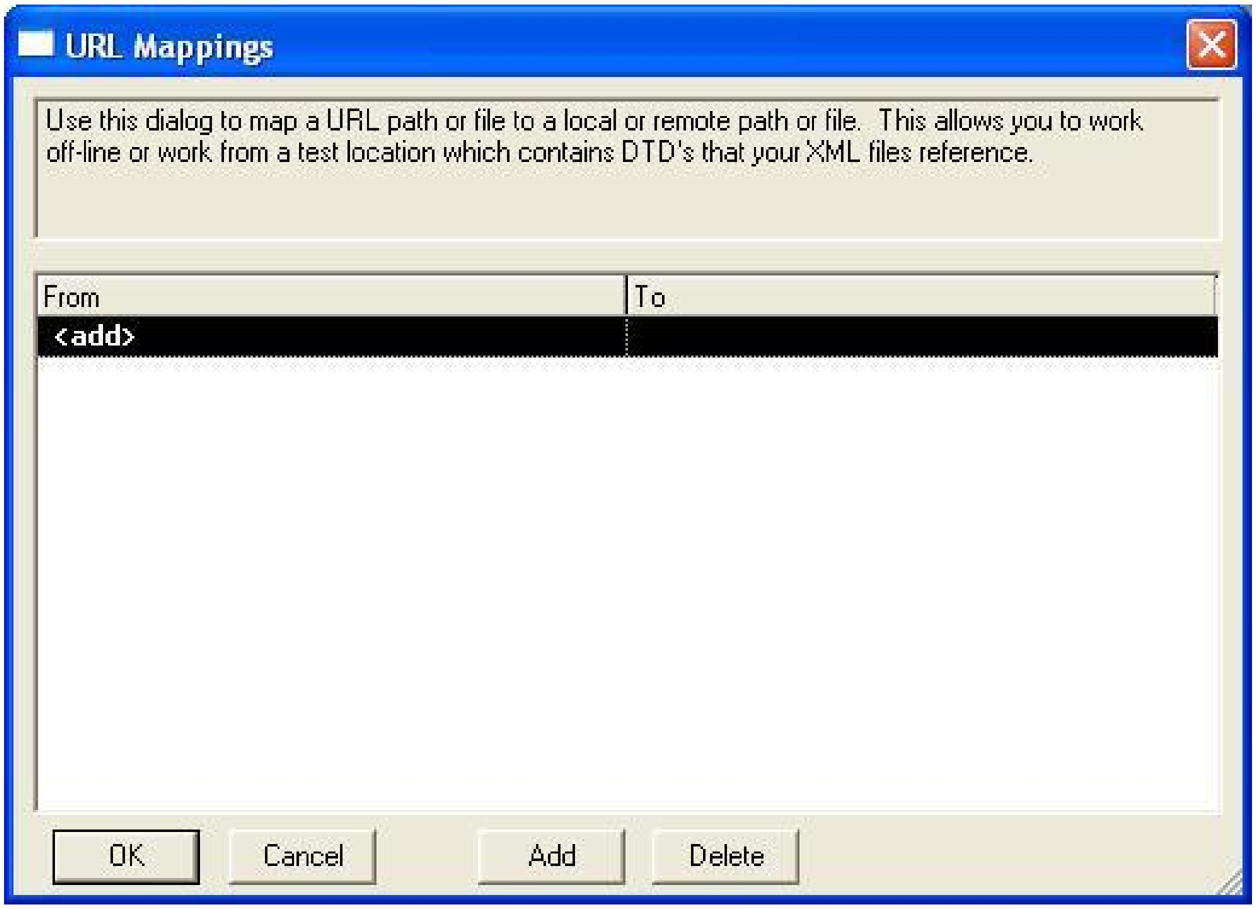
To open the external DTD referenced by document type definition (!DOCTYPE), place the cursor anywhere on the !DOCTYPE tag and press **Alt**+**1** (or right-click to display the context menu and select **Go to Error/Include File**).

URL Mappings

Map URLs to a different location. Whenever opening a URL, the URL map is examined to see if this URL is mapped to a different location. If the URL is mapped to a different location, then that mapped location is used.

This feature allows you to work offline or from a test location. For example, if you need to work with XML documents that contain external DTDs while offline you can map the URL to the DTD to a local file. Similarly, if you wanted to test changes to a DTD without modifying every XML documents DTD references, you can map the URL to the test DTD location.

Figure 7.22. URL Mappings Dialog



Use this dialog to map a URL path or file to a local or remote path or file. This allows you to work off-line or work from a test location which contains DTD's that your XML files reference.

To map a URL, complete the following steps:

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **URL Mappings** setting.
2. Click in the **From** text box that reads **<add>**.
3. Type in the URL that will be mapped to a different location.
4. Click on the **To** text box and type in the location to use for this URL.

5. Click **OK**.

Toggling Between Begin and End XML Tags

Place the cursor anywhere on the begin or end tag and press **Ctrl**+**]** to find the corresponding end or begin tag respectively.

HTML

This section describes some of the features and options that are available for HTML, including extension-specific options, the HTML Beautifier, and more.

HTML support includes Context Tagging®, a beautifier, Color Coding, Syntax Expansion, and Syntax Indenting for HTML, JSP, and ASP. Many of the language features in SlickEdit ® Core are supported for languages embedded in HTML, including Context Tagging, Color Coding, SmartPaste®, Syntax Expansion, and Syntax Indenting.

Tip

When working with HTML files, you can toggle between the begin and end HTML tags by pressing **Ctrl**+**]**.

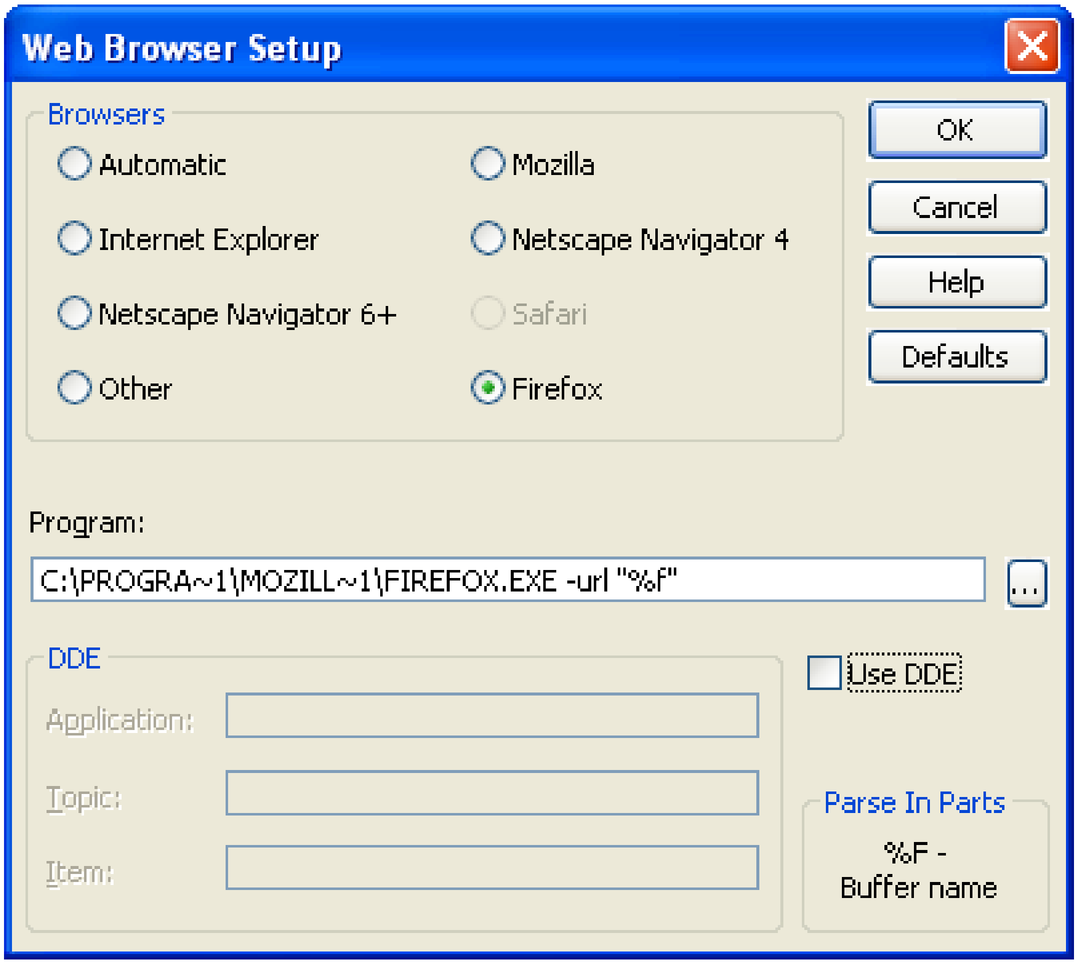
Exporting to HTML

To save the current open buffer as HTML file with formatting and color coding, use the **export_html** command.

Configuring the Web Browser

To specify the Web browser that is used for previewing, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Web Browser Setup** setting. The Web Browser Setup dialog is displayed, as shown below. See Web Browser Setup Dialog for a list of option descriptions.

Figure 7.23. Web Browser Setup Dialog



Browsers: Automatic, Mozilla, Internet Explorer, Netscape Navigator 4, Netscape Navigator 6+, Safari, Other, [✓ Firefox]

Program: C:\PROGRA~1\MOZILL~1\FIREFOX.EXE -url "%f"

DDE — Application: Topic: Item: — Use DDE

Parse In Parts: %F - Buffer name

HTML Formatting Options

Content in XML and HTML files may be set to automatically wrap and format as you edit, through the XML/HTML Formatting feature. See XML/HTML Formatting for complete information.

Other miscellaneous tag and attribute options are still provided through the HTML Formatting Options dialog. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, choose **html** from the **Extension** drop-down list, then click the **Options** button. The HTML Formatting Options dialog is displayed.

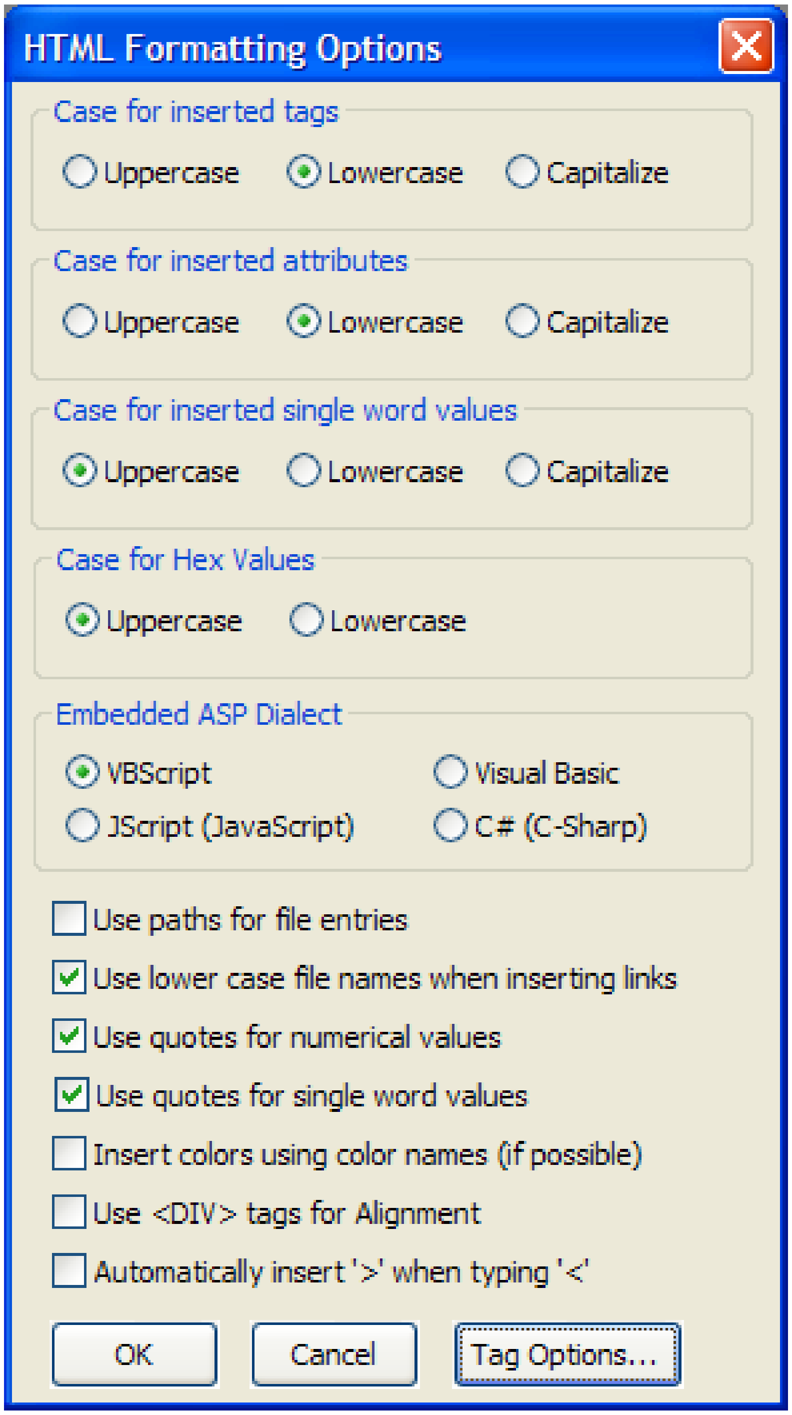
Tip

You can also display the HTML Formatting Options dialog by clicking the **HTML Options** button on the XML/HTML Formatting Scheme Configuration dialog (click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **XML/HTML Formatting** setting).

Note

Languages similar to HTML have similar Formatting Options dialogs which are not specifically documented.

Figure 7.24. HTML Formatting Options Dialog



HTML Formatting Options

Case for inserted tags

Uppercase [✓ Lowercase] Capitalize

Case for inserted attributes

Uppercase [✓ Lowercase] Capitalize

Case for inserted single word values

[✓ Uppercase] Lowercase Capitalize

Case for Hex Values

[✓ Uppercase] Lowercase

Embedded ASP Dialect

[✓ VBScript] Visual Basic

JScript (JavaScript) C# (C-Sharp)

- ☐ Use paths for file entries
- ☑ Use lower case file names when inserting links
- ☑ Use quotes for numerical values
- ☑ Use quotes for single word values
- ☐ Insert colors using color names (if possible)
- ☐ Use <DIV> tags for Alignment
- ☐ Automatically insert '>' when typing '<'

The following settings are available:

- **Case for inserted tags -** This option is where you specify if you want the tag names to be lowercase or uppercase. For example, if you select **Uppercase**, then <td> becomes <TD>.
- **Case for inserted attributes -** This option is where you specify if you want attributes to be lowercase or uppercase inside the body of a tag. For example, if you select **Uppercase**, then <td align=right> would become <td ALIGN=right>.
- **Case for inserted single word values -** This option is where you specify if you want word values to be uppercase or lowercase when the = of an attribute is inside the body of a tag. For example, if you select **Uppercase**, then <td align=right> becomes <td align=RIGHT>.
- **Case for hex values -** This option is where you specify if you want hex values to be uppercase or lowercase after the = of an attribute inside the body of a tag. For example, if you select **Uppercase**, then <body bgcolor=#ffffff> would become <body bgcolor=#FFFFFF>.
- **Embedded ASP dialect -** The language that you select here determines the default embedded language mode for ASP files.
- **Use path for file entries -** (Not available in SlickEdit Core.) This option is used by the HTML toolbar. When this attribute is selected, path information is included when inserting file names into the value of an attribute. For example, creating a link with this option turned on might result in the following example.

  ```
  <A HREF=file://c|/dev/html/index.htm#>sample link</A>
  ```

  When this option is not selected, the result is the following example.

  ```
  <A HREF= index.htm#>sample link</A>
  ```

- **Use lower case file names when inserting links -** (Not available in SlickEdit Core.) This option is used by the HTML toolbar. When this option is selected, the lowercase file names are used when inserting links into the value of an attribute. See the example for **Use paths for file entries**.
- **Use quotes for numerical values -** When this option is selected, word values are enclosed in double quotes after the = of an attribute inside the body of a tag.
- **Use quotes for single word values -** When this option is selected, number values are enclosed in double quotes after the = of an attribute inside the body of a tag.
- **Insert colors using color names (if possible) -** When this option is selected, colors are inserted by using the color names if possible. For example, instead of using **#ff0000** to represent the color red, the color name **red** is used.

  ```
  <BODY bgcolor=#ff0000>
  <!-- and -->
  <BODY bgcolor=red>
  <!-- are identical -->
  ```

- **Use <DIV> tags for alignment** - (Not available in SlickEdit Core.) This option is used by the HTML toolbar. When this option is selected, the <DIV> tag is used for aligning text. For example, rather than using a <CENTER> tag to designate alignment, use the following tagging:

  ```
  <DIV ALIGN=CENTER>
  </DIV>
  ```

- **Tag Options** - Opens the XML/HTML Formatting Scheme Configuration dialog. See XML/HTML Formatting for more information.

HTML Beautifier

To beautify an HTML document, open the document you want to beautify, then from the main menu, click **Format** → **Beautify** (or use the **gui_beautify** command). The HTML Beautifier dialog will be displayed, which allows you to make settings for how the code will be beautified.

Caution

The HTML Beautifier is not affected by XML/HTML Formatting. If you run the beautifier on documents that have been automatically formatted through XML/HTML Formatting, you may find unexpected results.

You can use the commands **h_beautify** or **h_beautify_selection** to instantly beautify the file or the selection according to the settings on the Beautifier dialog.

Note

The CFML Beautifier contains the same options and settings as the HTML Beautifier.

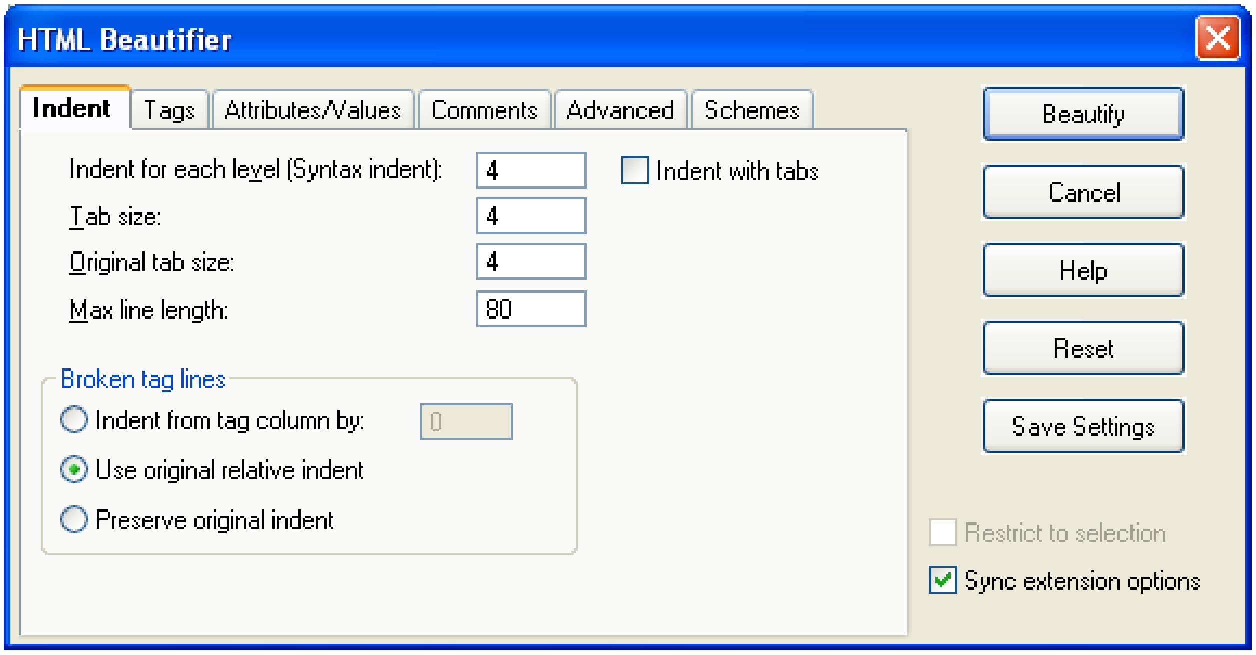
The following buttons and options are available on the Beautifier:

- **Beautify** - Beautifies current selection or buffer and closes the dialog box.
- **Reset** - Restores the dialog box settings to the values that appeared when you invoked the dialog.
- **Save Settings** - Saves beautify options in `uformat.ini` file. These settings are used by the **h_beautify** command.
- **Restrict to selection** - When on, only lines in the selection are beautified.
- **Sync extension options** - When on, the extension options are updated to reflect any changes that these dialogs have in common.

The tabs on the HTML Beautifier are described in the sections below.

Indent Tab

Figure 7.25. HTML Beautifier: Indent Tab



Indent for each level (Syntax indent): 4

Indent with tabs

Tab size: 4

Original tab size: 4

Max line length: 80

Broken tag lines

Indent from tag column by: 0

[✓ Use original relative indent]

Preserve original indent

Restrict to selection

[✓ Sync extension options]

The following settings are available:

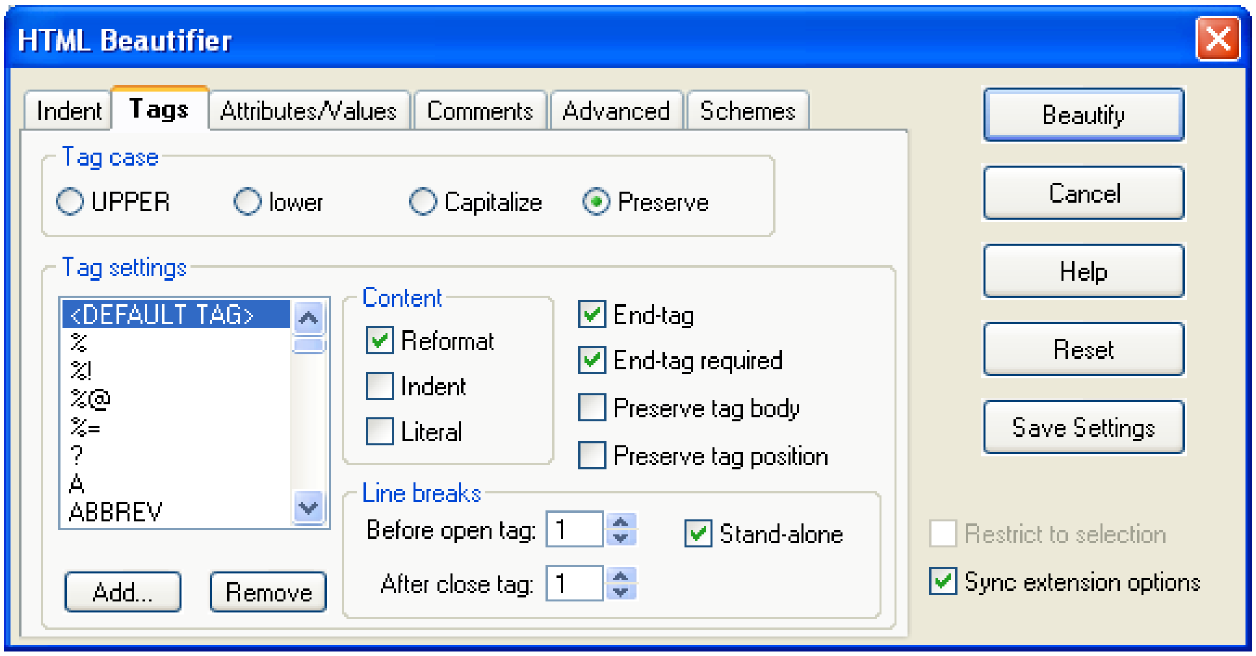
- **Indent for each level (Syntax indent)** - The amount to indent for each new nesting level. We have put the words "Syntax indent" in parenthesis to help indicate that this field has the same meaning as the **Syntax indent** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab). By default, we initialize this text box with your current extension setup setting.
- **Indent with tabs** - When on, tab characters are used for leading indent of lines. This value defaults to the **Tabs** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab).
- **Tab size** - Specifies output tab size. The output tab size is only used if **Indent with tabs** check box is on. This value defaults to the **Syntax indent** text box in the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Indent Tab).
- **Original tab size** - Specifies what the original file's tab expansion size was. We need to know the tab expansion size of your original file to handle reusing indent amounts from your original file. Currently the beautifier only reuses the original source file's indenting for comments. This option has no effect if the original file has no tab characters.
- **Max line length** - Specifies the maximum length a line can be before it is wrapped to a new line. This max line length is relative to the current indent level. For example, if you were inside a <TD> block which was at an indent level of 30, and your max line length was set to **80**, then that line would not be

wrapped until it reached a total length of 30+80=110 characters. Set this value to **0** if you want your line breaks preserved.

- **Broken tag lines** - Specify how broken tag lines are treated from the following options:
  - **Indent from tag column by** - Specifies the amount to indent for broken tag lines from the starting column of the tag. Specify **0** to align broken tag lines with the starting column of the tag.
  - **Use original relative indent** - Reindent broken tag lines using the original relative indent amount from the starting column of the tag.
  - **Preserve original indent** - Preserve the original absolute indent amount on broken tag lines.

Tags Tab

Figure 7.26. HTML Beautifier: Tags Tab



HTML Beautifier

Indent | **Tags** | Attributes/Values | Comments | Advanced | Schemes

Tag case: UPPER lower Capitalize [✓ Preserve]

Tag settings

<DEFAULT TAG>
%
%!
%@
%=
?
A
ABBREV

Add... Remove

Content: [✓] Reformat, [ ] Indent, [ ] Literal

[✓] End-tag
[✓] End-tag required
[ ] Preserve tag body
[ ] Preserve tag position

Line breaks: Before open tag: 1, After close tag: 1, [✓] Stand-alone

Beautify | Cancel | Help | Reset | Save Settings

[ ] Restrict to selection
[✓] Sync extension options

The **Tags** tab contains the following options and settings:

- **Tag case** - Specifies how you want your tag names cased. For example, if you choose **UPPER**, then <td> would be beautified to <TD>.
- **Tag settings** - The settings in this group box apply to the tag that is selected in the list box. The <DEFAULT TAG> tag item in the list of tags specifies settings to use when no settings exist for a tag found during beautification.
- **Add** - Display the Add Tag dialog. This dialog allows you to add a tag definition to the list and specify how it will be beautified.
- **Remove** - Used to remove the currently selected tag.

- **Content** - Specify how to beautify content from the following options:
  - **Reformat -** When off, all white space and line breaks are preserved. However, tags are formatted (tag case, attribute case, etc.).
  - **Indent** - When on, the selected tag's content, bounded by the opening and closing tag, will be indented one syntax indent level.
  - **Literal** - When on, all white space and line breaks are preserved. In addition, tags within the content are treated as literal text. If **Reformat** is on, then leading indent is adjusted.

  ### Tip

  Some examples of content settings for specific tags are:

  - **XMP** - **Literal**
  - **PRE** - All **Content** check boxes off
  - **BLOCKQUOTE - Reformat**, **Indent**
  - **STYLE** - **Reformat**, **Literal**

- **End tag -** When on, the selected tag has an end tag. For example, the tag <TD> has a ending tag tag that is </TD>, so **End tag** would be checked in this case.
- **End tag required -** When on, the selected tag's ending tag is required. This means that the ending tag is not optional. An example of a tag whose ending tag could be optional is <P>.
- **Preserve tag body -** When on, all properties of the body of the tag selected will be preserved. This is especially useful for JSP/ASP tags where you do not want the embedded Java or VBScript inside the <% ... %> to be beautified.
- **Preserve tag position -** When on, the position of the tag within the document is preserved. This is especially useful with JSP/ASP tags where reindenting the tag would interrupt the flow of the script code.
- **Line breaks -** Select the way lines are broken:
  - **Before open tag -** Specify the number of line breaks before the opening tag. For example, if you were to set the number of line breaks before the opening tag to **3** for the <TD> tag, and the original content was:

    ```
    <TR>
    <TD>
    </TD>
    </TR>
    ```

    The resulting content would be:

    ```
    <TR>
    ```

```
<TD>
</TD>
</TR>
```

Please note that the number of line breaks is not the same as the number of blank lines. If you wanted three blank lines, then you would set the number of line breaks to **4**.

- **After close tag** - Specify the number of line breaks after the closing tag. For example, if you were to set the number of line breaks after the closing tag to **3** for the <TD> tag, and the original content was:

  ```
  <TR>
  <TD>
  </TD>
  </TR>
  ```

  The resulting content would be:

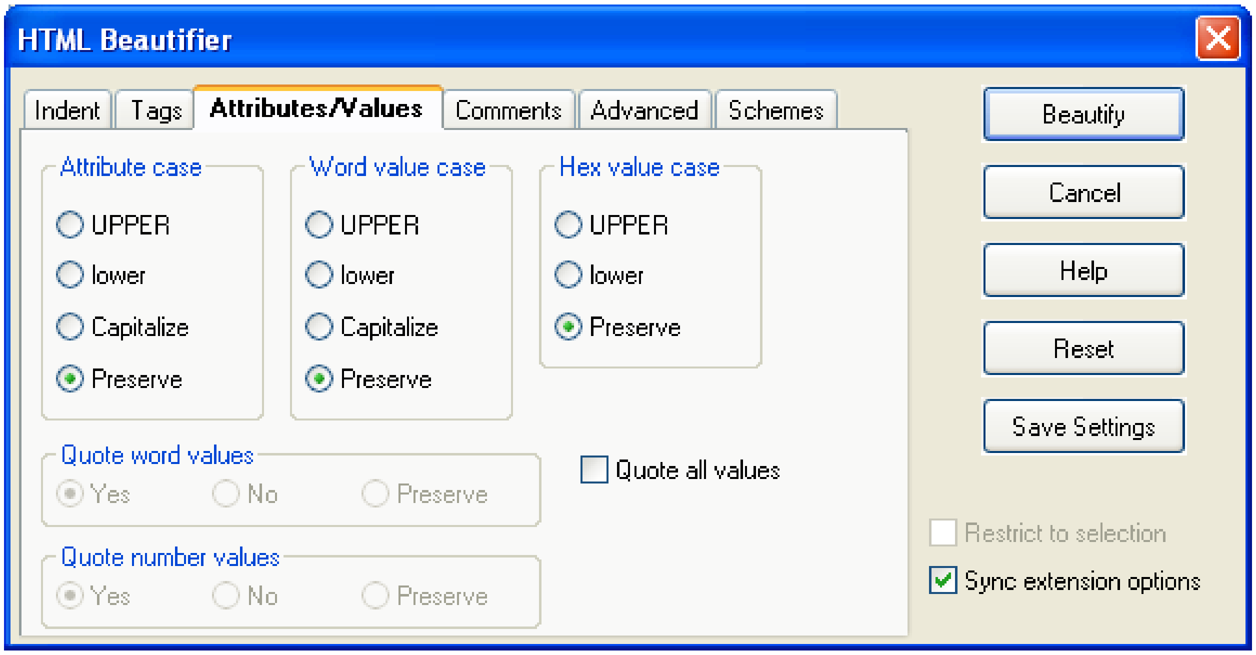
  ```
  <TR>
  <TD>
  </TD>
  
  
  </TR>
  ```

  Please note that the number of line breaks is not the same as the number of blank lines. If you wanted three blank lines, then you would set the number of line breaks to **4**.

- **Stand-alone** - When on, the selected tag will always have at least one preceding and trailing line break on both its opening and ending tag when beautified. You can specify that there be more than one line break by setting **Line breaks** for the opening and closing tags.

Attributes/Values Tab

Figure 7.27. HTML Beautifier: Attributes/Values Tab

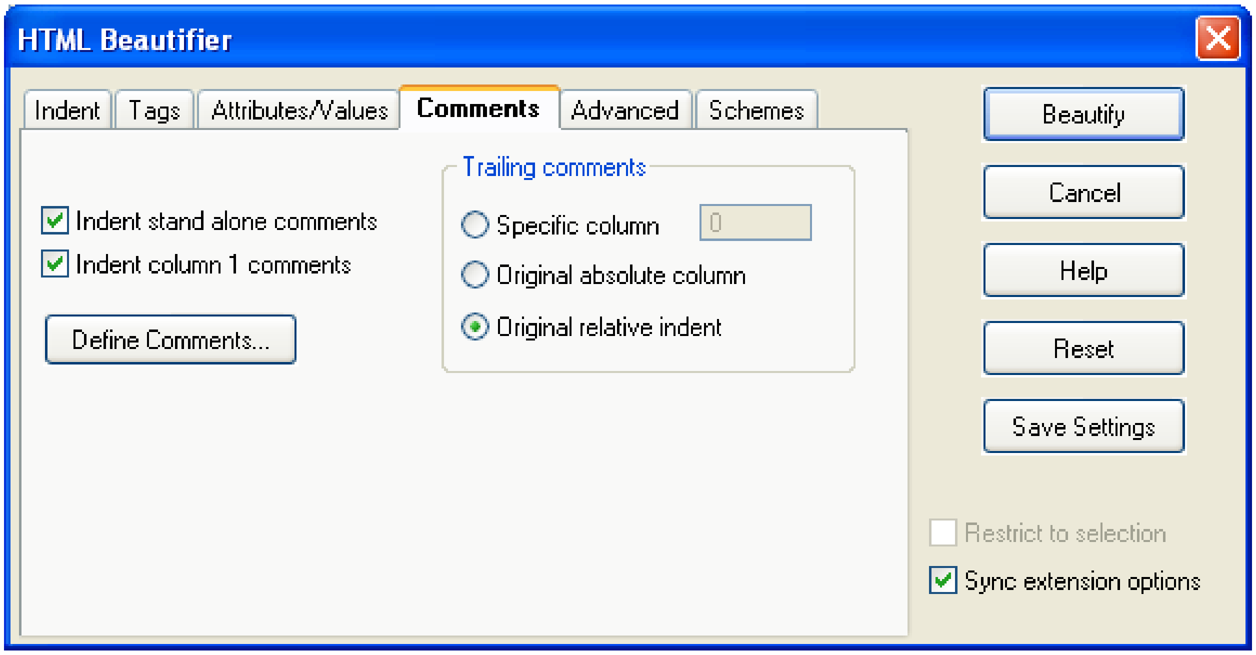


The **Attributes/Values** tab contains the following settings:

- **Attribute case** - Specifies how you want attributes cased inside the body of a tag. For example, if you choose **UPPER**, then <td align="right"> would be beautified to <td ALIGN="right">.
- **Word value case** - Specifies how you want word values cased after the = of an attribute inside the body of a tag. For example, if you choose **UPPER**, then <td align="right"> would be beautified to <td align=RIGHT>.
- **Hex value case** - Specifies how you want hex values cased after the = of an attribute inside the body of a tag. For example, if you choose **UPPER**, then <body bgcolor="#ffffff"> would be beautified to <body bgcolor="#FFFFFF">.
- **Quote word values** - Specifies whether you want word values enclosed in double quotes after the = of an attribute inside the body of a tag. For example, <td align=right> would be beautified to <td align="right">. Select **Preserve** if you want word values left alone.
- **Quote number values** - Specifies whether you want number values enclosed in double quotes after the = of an attribute inside the body of a tag. For example, <td width=590> would be beautified to <td width="590">. Select **Preserve** if you want number values left alone.
- **Quote all values** - When on, all values will be quoted after the = of an attribute inside the body of a tag. For example, <td align=right> would be beautified to <td align="right">.

Comments Tab

Figure 7.28. HTML Beautifier: Comments Tab



Indent stand alone comments [✓]
Indent column 1 comments [✓]

Trailing comments
- Specific column: 0
- Original absolute column
- [✓ Original relative indent]

Restrict to selection [ ]
Sync extension options [✓]

The **Comments** tab contains the following options and settings:

- **Indent stand alone comments** - When on, indicates whether comments which appear on lines by themselves with no content to the left are indented to the current content indent level. The following is an example of a stand-alone comment:

  ```
  <!-- stand alone
       comment
  -->
  ```

- **Indent column 1 comments** - Normally comments that start in column 1 are left alone. Turn this on if you want the indent for these comments to be adjusted as well.
- **Define Comments** - Displays the HTML Comments dialog. This dialog allows you to define what the beautifier recognizes as a comment. The sequence **<!-- -->** is defined as the HTML comment by default. If you delete all comment definitions then all comments will be parsed as content and possibly word-wrapped.
- **Trailing comments** - Specify how trailing comments are treated from the following options:
  - **Specific column** - This text box specifies the column that "trailing comments" should be placed at. By trailing comments, we mean comments which appear at the end of lines which contain tags. An example of a trailing comment is:

    ```
    <TD>   <!-- trailing comment -->
    ```

  - **Original absolute column** - When on, "trailing comments" are placed at the same column as the original source file. By trailing comments, we mean comments which appear at the end of lines which contain tags.

- **Original relative column** - When on, "trailing comments" are indented by reusing the indent after the last character of the end of the statement or declaration of the original source file. By trailing comments, we mean comments which appear at the end of lines which contain tags.

The following is an example of code before beautifying trailing comments:

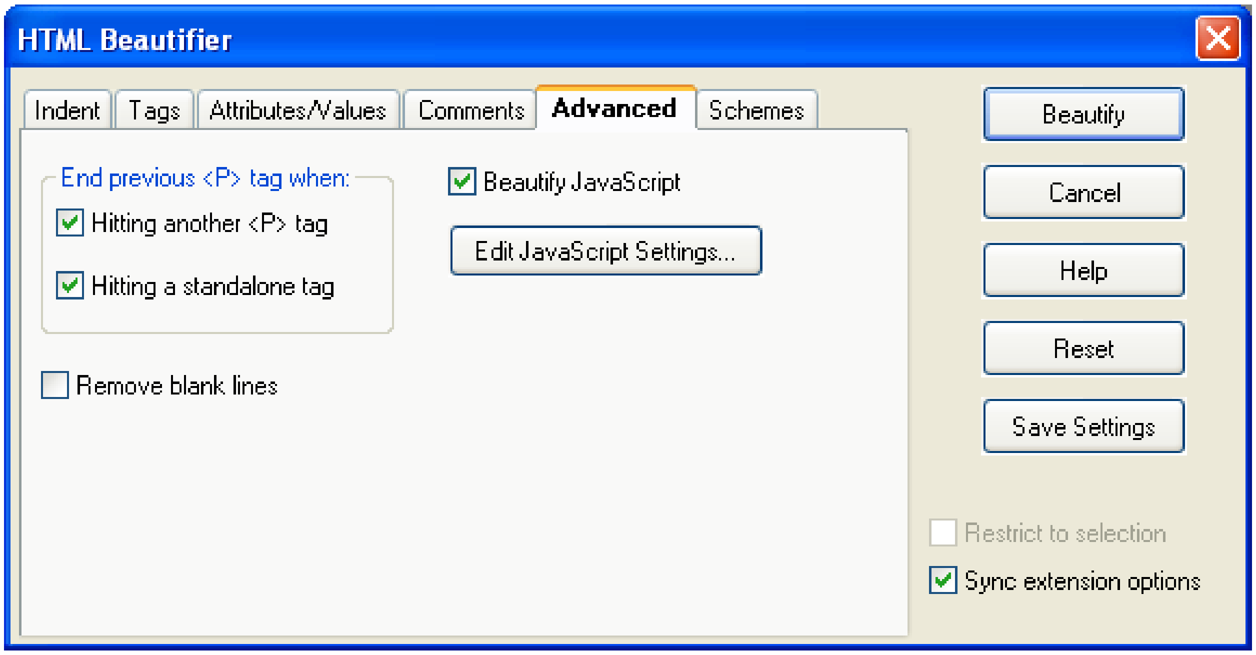
```
<TR>
<TD><four characters><!-- trailing comment -->
</TD>
</TR>
```

The resulting code would be:

```
<TR>
  <TD><four characters><!-- trailing comment -->
  </TD>
</TR>
```

Advanced Tab

Figure 7.29. HTML Beautifier: Advanced Tab


HTML Beautifier

Indent | Tags | Attributes/Values | Comments | Advanced | Schemes

End previous <P> tag when:
- [✓] Hitting another <P> tag
- [✓] Hitting a standalone tag

- [ ] Remove blank lines
- [✓] Beautify JavaScript

Edit JavaScript Settings...

Beautify | Cancel | Help | Reset | Save Settings

- [ ] Restrict to selection
- [✓] Sync extension options

The following options are available on the **Advanced** tab:

- **End previous <P> tag when** - Select from the following options:
  - **Hitting another <P> tag** - When on, the beautifier will interpret a <P> tag as a signal of the end of

any previous paragraphs.

- **Hitting a standalone tag** - When on, the beautifier will interpret a standalone tag as a signal of the end of any previous paragraphs. For example, in the following content, the <TABLE> tag (assuming that the <TABLE> tag is a standalone tag) signals the end of the previous <P> paragraph. This has the benefit of cleaning up unwanted (and unexpected) indenting. For example:

  ```
  <P>
  This is a paragraph of content.  The paragraph will be ended by the
  start of the table below it.

  <TABLE>
    <TR>
      <TD>a table cell</TD>
    </TR>
  </TABLE>
  ```

- **Remove blank lines** - When on, blank lines are deleted.
- **Beautify JavaScript** - When on, embedded JavaScript is beautified according to your JavaScript beautifier settings.
- **Edit JavaScript Settings** - Click on this button to configure the JavaScript Beautifier settings. The JavaScript Beautifier is the same as the C/C++ Beautifier - see C/C++ Beautifier for more information.

Schemes Tab

To define a new scheme, set the various beautify options and press the **Save Scheme** button. User defined schemes are stored in `uformat.ini`.

XML/HTML Formatting

Content in XML and HTML files may be set to automatically wrap and format as you edit. XML/HTML Formatting is essentially comprised of two features: **Content Wrap**, which wraps the content between tags, and **Tag Layout**, which formats tags according to a specified layout. Both can be activated individually for all XML and HTML files that are opened in SlickEdit®, or just for the current document.

Formatting schemes form the basis for how tags and content are formatted. A formatting scheme contains any number of XML or HTML tags, each of which can be configured individually for indent levels, wrapping, and tag structure. Multiple schemes can be defined—for example, you may want one scheme for HTML files and another for XML files, or perhaps you are required to code certain files to various standards. Schemes can be saved and imported, so they can be shared with your team. Tags for each scheme can be entered manually or you can import tags from the current file.

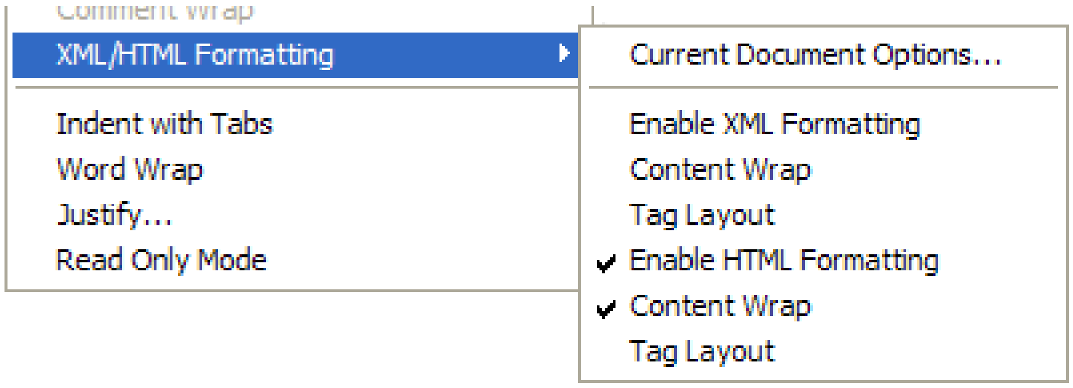
Caution

XML/HTML Formatting does not currently affect XML or HTML Beautifier settings. If you run the beautifier on documents that have been automatically formatted through XML/HTML Formatting, you may find unexpected results.

Enabling/Disabling XML/HTML Formatting

XML/HTML Formatting is on by default for XML and HTML files that you open in SlickEdit®. You can activate and/or deactivate Tag Layout and/or Content Wrap for either file type on a global basis or on a per document basis. Options to turn these features on/off are located on the **Format** → **XML/HTML Formatting** menu.

Figure 7.30. XML/HTML Formatting Menu



Enabling/Disabling Globally

Automatic formatting can be enabled or disabled for every XML and/or HTML file that is created or opened in **SlickEdit**. These XML- and HTML-specific global options are toggled on/off by placing a check next to **Enable XML Formatting** and/or **Enable HTML Formatting**. To toggle **Tag Layout** and/or **Content Wrap** on or off for either file type, check or uncheck those items. For example, if you want both Tag Layout and Content Wrap enabled for XML files, but you only want Content Wrap enabled for HTML files, place a check next to **Enable XML Formatting** and its submenu items **Tag Layout** and **Content Wrap**, then place a check next to **Enable HTML Formatting** and its submenu item **Content Wrap**.

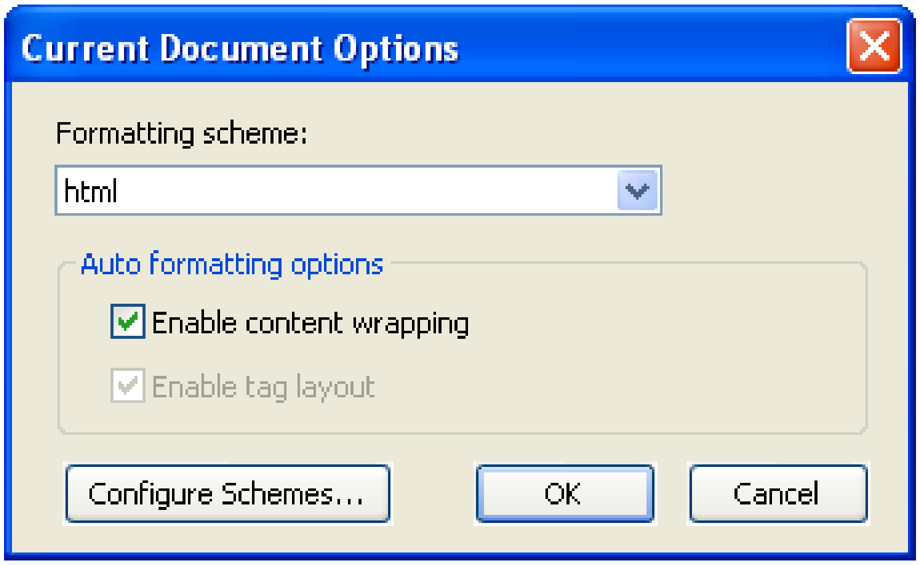
The **xml_formatting_toggle** and **html_formatting_toggle** commands can also be used to toggle all respective formatting features on/off. For use in macros, two more commands are available: **xml_formatting** and **html_formatting**. When you use any of these commands, the command line prompts for yes (Y) or no (N). When these commands are used to enable/disable XML/HTML Formatting, both Tag Layout and Content Wrap are enabled/disabled for both XML and HTML files on a global basis.

Enabling/Disabling for the Current Document

Current document options are available so that you can turn off aspects of global formatting for just the current document. For example, if you have both aspects of HTML formatting enabled globally, but you need to edit an old HTML file and do not want automatic tag layout to occur, you can disable HTML Tag Layout for that specific file. The current document settings are remembered each time you open that file.

To change XML or HTML formatting for just the current document, click **Format** → **XML/HTML Formatting** → **Current Document Options**, or use the **xml_html_document_options** command. The Current Document Options dialog is displayed.

Figure 7.31. Current Document Options Dialog



Formatting scheme: html

[✓] Enable content wrapping

[✓] Enable tag layout

Select the **Formatting scheme** that you want applied, then check or uncheck the **Auto formatting options** that you want enabled or disabled. Click **Configure Schemes** if you want to modify or create a new scheme to apply to the current document.

Global formatting must be enabled for the current file type in order for these options to be available. For example, see the two screen shots shown previously. The menu screen shot shows that global HTML formatting is enabled for Content Wrap only. This means that tag content for every HTML file that you create or open in SlickEdit® Core will be wrapped, but no Tag Layout settings will be applied. The second screen shot (the Current Document Options dialog) reflects that the global setting for Tag Layout is disabled. Therefore it cannot be enabled for the current document. To enable it for the current document, you would first need to enable the global setting by placing a check next to **Format** → **XML/HTML Formatting** → **Enable HTML Formatting** → **Tag Layout**. Then you can use the Current Document Options dialog to enable it for the current document.

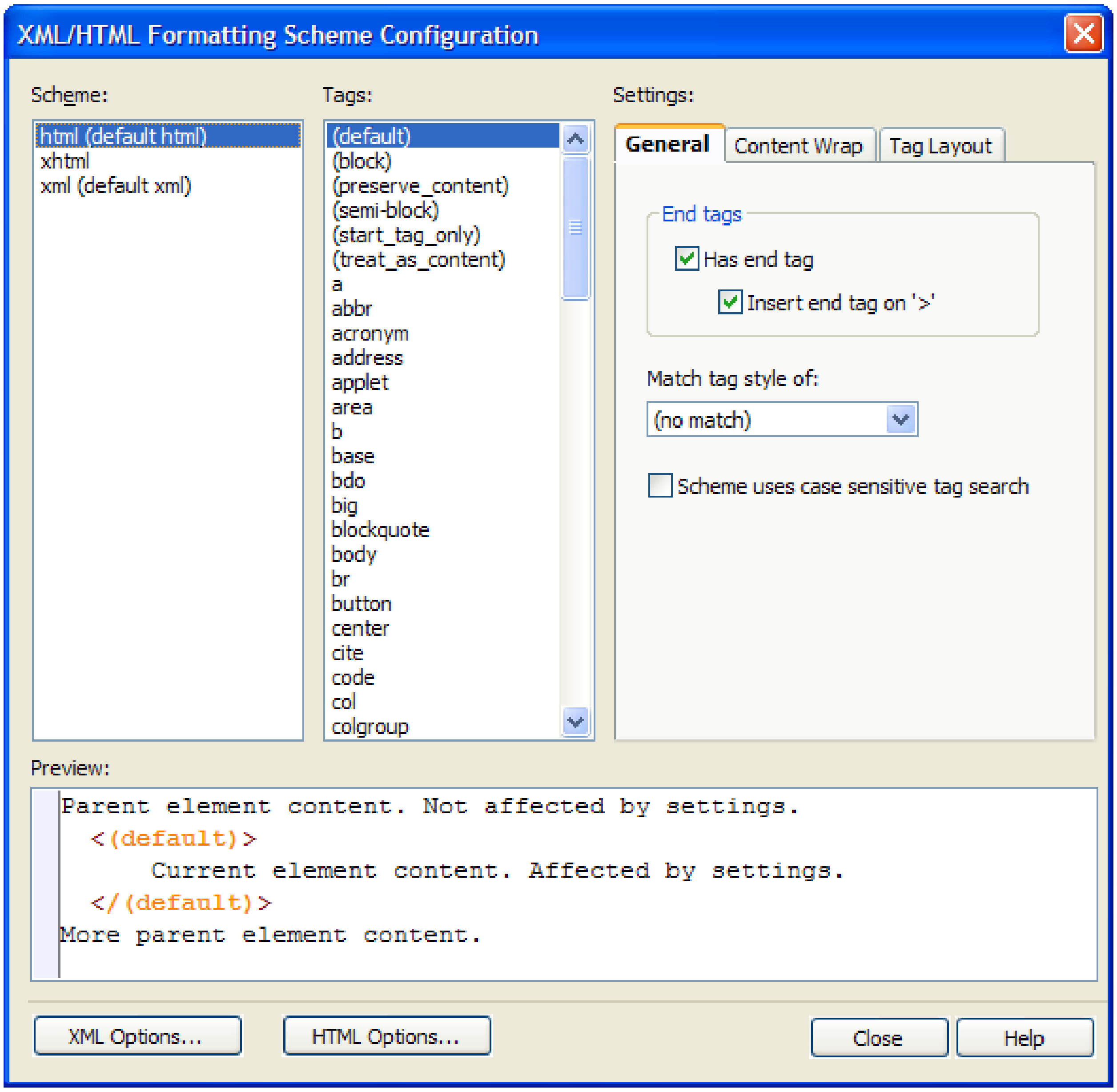
Working with Schemes

A formatting scheme is comprised of any number of individually-configurable XML or HTML tags and controls the formatting of your text when XML/HTML Formatting is enabled. You can create different schemes for use with either XML or HTML, and/or different schemes for use with different individual files. For example, you may want one scheme for HTML and a different scheme for XML. Or, you may want one scheme for creating new files and another for editing existing files.

Schemes are stored as XML files in the format `<SchemeName>.xml`, and are located in the `formatschemes/xwschemes` subdirectory of your user configuration directory. Scheme files can be shared or checked into version control to ensure consistency in the formatting of your team's XML/HTML files.

Use the XML/HTML Formatting Scheme Configuration dialog to work with schemes. You can access the dialog from **Window** → **Preferences** → **SlickEdit** → **General** → **XML/HTML Formatting**, or by using the **xml_html_options** command. Available schemes are listed in the **Schemes** column. The tags that make up each scheme are listed in the **Tags** column.

Figure 7.32. XML/HTML Formatting Scheme Configuration Dialog



Scheme: html (default html), xhtml, xml (default xml)

Tags: (default), (block), (preserve_content), (semi-block), (start_tag_only), (treat_as_content), a, abbr, acronym, address, applet, area, b, base, bdo, big, blockquote, body, br, button, center, cite, code, col, colgroup

End tags
[✓] Has end tag
[✓] Insert end tag on '>'

Match tag style of: (no match)

[ ] Scheme uses case sensitive tag search

Preview:

```
Parent element content. Not affected by settings.
  <(default)>
      Current element content. Affected by settings.
  </(default)>
More parent element content.
```

Default Schemes

XML/HTML Formatting comes with two default schemes. Each time that you open an HTML file for editing, by default, the **html (default html)** scheme is used. Each time an XML file is opened, the **xml (default xml)** scheme is used. You can configure the settings for each default scheme or specify your own default schemes (see Specifying a Different Default Scheme).

The **html (default html)** scheme is comprised of a **(default)** tag as well as a list of commonly used HTML tags, that are preconfigured with standard settings. The **xml (default xml)** scheme is comprised of one **(default)** tag preconfigured with standard settings.

For any tag that does not appear in the Tags list, the **(default)** tag settings are used.

Specifying the Scheme to Use

You can specify a scheme to use for just the current document, or a default scheme to use for all HTML and/or XML files that are created or opened in SlickEdit® Core.

To specify the scheme for the current document, click **Format** → **XML/HTML Formatting** → **Current Document Options**, and pick the scheme to use from the drop-down list. The scheme you choose is remembered the next time that the document is opened.

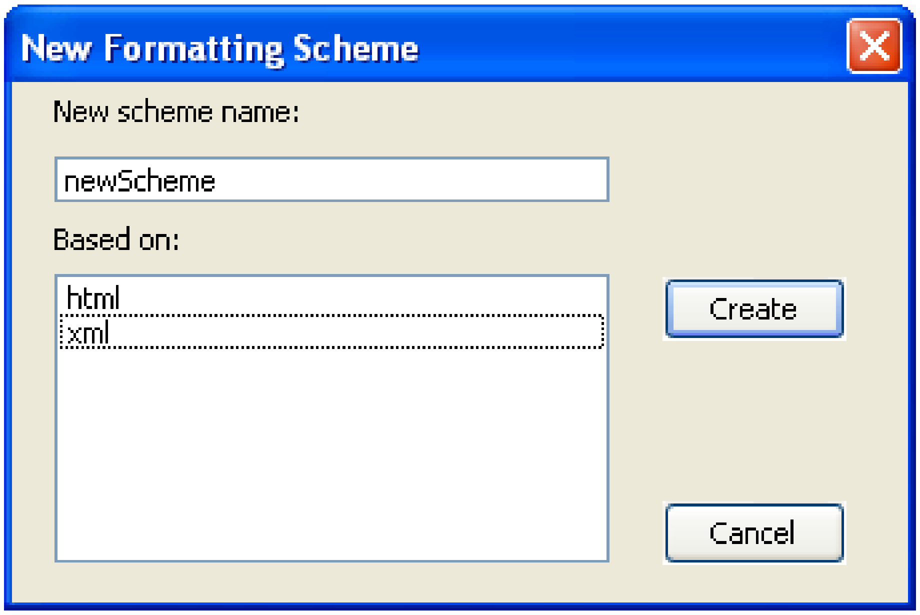
Specifying a Different Default Scheme

SlickEdit® Core has two predefined default schemes (see Default Schemes). You can specify your own default scheme for new XML or HTML files by selecting a scheme, then from the right-click context menu, choose **Set as Default XML Scheme** or **Set as Default HTML Scheme**. The name in the **Scheme** list will be appended with the text "(default xml)" or "(default html)". For example, if you have an HTML scheme named **readmes** and set it as the default, the name in the Schemes list will change to **readmes (default html)**.

Creating Schemes

To create your own scheme, right-click in the **Scheme** column of the XML/HTML Formatting dialog, and select **New Scheme**.

Figure 7.33. New Formatting Scheme Dialog



New scheme name:

newScheme

Based on:

html
xml

Type a name for your scheme, then select an existing scheme on which it should be based. This will "copy" all of the tags and settings from the selected existing scheme to your new scheme. Click **Create** when finished.

Saving and Deleting Schemes

In the XML/HTML Formatting Scheme Configuration dialog, modified schemes are denoted by asterisks around the name (for example, ***html***). To save a modified scheme, right-click on it and select **Save Scheme Changes**. Alternatively, when you close the XML/HTML Formatting dialog, you are prompted whether to save modified schemes.

To delete a selected scheme, right-click and choose **Delete Scheme**.

Working with Tags

As described previously, formatting schemes are comprised of individual tags with associated formatting settings. For example, in HTML, you may want start and end <div> tags to be on separate lines above/below the text, while start/end style tags (such as <b> and <i>) are formatted inline with the text.

In order to configure formatting for individual tags, you must first define a scheme (see Creating Schemes), or you can use one of the default schemes (see Default Schemes). The Tags column of the XML/HTML Formatting dialog shows a list of tags associated with the selected scheme.

Default Tags

For all schemes, a **(default)** tag is included. It defines the settings that are applied to tags that are not specifically listed in the Tags list. It can also be used as a basis for other tags when you use the **Match tag style of** option on the **General** tab.

The default settings for the **(default)** tag are based on a block-style tag, in that the start and end tags are on separate lines, content and nested tags are indented according to your extension indent style, and content is wrapped to a fixed right margin at column 80. Use the Preview area at the bottom of the dialog to see how tags based on the **(default)** tag will be formatted in your code.

Base Tags

Base tags are used to define groups of tags with similar behaviors. By creating a base tag and associating a set of actual tags with that tag, you can configure that set of tags by changing the settings for the base tag. The sample HTML schemes included with SlickEdit® Core include two base tags: **(block)** and **(semi-block)**. When creating your own base tags, be sure to use unique tag names that are not used in formatting to make it easy to spot them.

The **(block)** tag is useful as a base tag for tags like <div>, where you want the start and end tags on separate lines from the content and aligned vertically. By default, this style indents nested tags and content according to your extension indent style, and content is wrapped to a fixed right margin at column 80. Because this is a common style in HTML, the **(block)** tag has the same settings as the (default) tag.

The **(semi-block)** tag is useful as a base tag for tags such as <h1>, where you want the start and end tags on the same line as the content. The default settings for **(semi-block)** are the same as for **(block)**, except for the start and end tags.

Use the Preview area at the bottom of the dialog to see how tags based on these base tags will be formatted in your code. The following are examples:

```
<div>
    Sample text of a tag set to (block) style.
</div>

<h1>Sample text of a tag set to (semi-block) style. Notice how wrapping
occurs within this tag.</h1>
```

Adding and Deleting Tags

To add individual tags to a selected scheme, right-click in the Tags column and select **New Tag**. Type the name of the tag without angle brackets or attributes. Click **OK** and the new tag is now listed in the Tags column.

Note

Tag names cannot have spaces. If you create a new tag with spaces, SlickEdit® converts the spaces to underscores in the dialog.

To add all of the tags from the current file to a selected scheme, right-click in the Tags column and select **Add Tags from Current File**.

To remove a tag from a selected scheme, right-click on the tag and select **Delete Tag**. Deleting SlickEdit Core **(default)** tags, or any tag that is based on another, is not recommended. If you attempt to do this, you will be prompted whether to continue.

Formatting Settings

The tabs on the XML/HTML Formatting dialog contain settings that control how your text is formatted when XML/HTML Formatting is enabled. The following sections describe the tabs and how each setting works. Before configuring settings, be sure the scheme and tag(s) that you want to affect are selected.

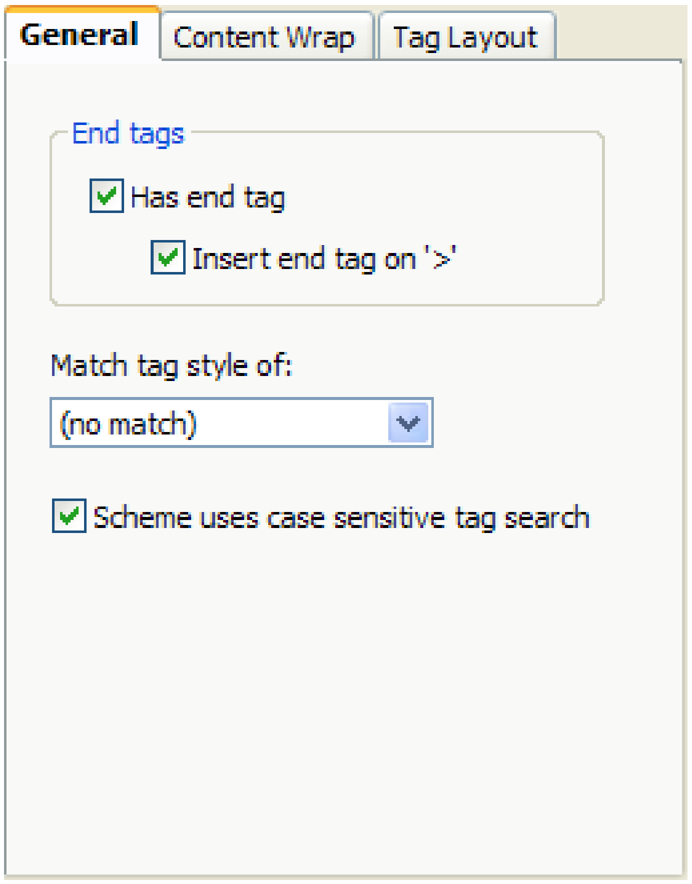
Caution

XML/HTML Formatting does not currently affect XML or HTML Beautifier settings. If you run the beautifier on documents that have been automatically formatted through XML/HTML Formatting, you may find unexpected results.

General Settings

The **General** tab of the XML/HTML Formatting dialog is shown below.

Figure 7.34. XML/HTML Formatting: General Tab



End tags

[✓] Has end tag

[✓] Insert end tag on '>'

Match tag style of: (no match)

[✓] Scheme uses case sensitive tag search

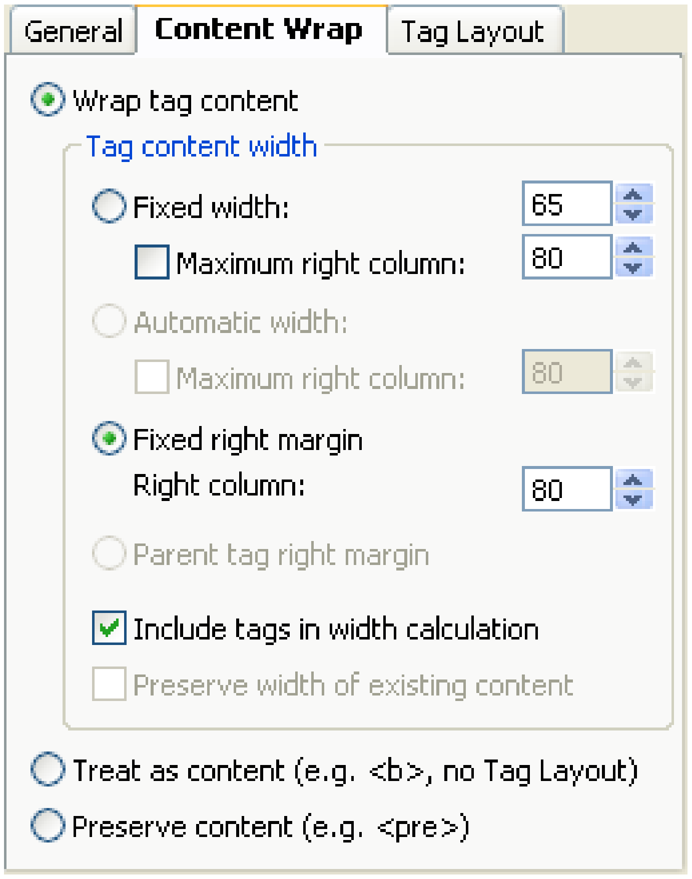
It contains the following general settings:

- **End tags settings** - These options control how the end tags for the selected tag are formatted:
  - **Has end tag** - This option tells SlickEdit® Core whether or not the specified tag is intended to be closed with an end tag. This information is used for SlickEdit Core to know when to start or stop calculating information based on the tag. For example, the <div> tag in HTML has a start and end tag, while the <br> tag does not have an end tag.
  - **Insert end tags on '>'** - When selected, SlickEdit Core automatically inserts the end tag after you type the closing brace (>) of the start tag. For example, when you type **<div>**, **</div>** is automatically inserted. The placement of the inserted tag depends on other settings you have specified, such as whether or not the end tag should be on a separate line (specified on the **Tag Layout** tab).
- **Match tag style of** - Select this option if you want the selected tag's settings to match the style of another tag, then pick the tag to use from the drop-down list. This can be a time-saver when adding a batch of new tags that should all have the same settings.
- **Scheme uses case-sensitive tag search** - When this option is selected, tags in the Tags column are displayed in the list exactly as you have typed them, with the case preserved. When you type the tags in the editor, the case must match exactly or the tag will not be recognized (and the **(default)** tag settings will be applied). This option is appropriate for XML. HTML is not case-sensitive.

Content Wrap Settings

The **Content Wrap** tab of the XML/HTML Formatting dialog contains options for specifying how wrapping should occur for the selected tag’s content.

Figure 7.35. XML/HTML Formatting: Content Wrap Tab



[✓ Wrap tag content]

Tag content width

Fixed width: 65

☐ Maximum right column: 80

Automatic width:

☐ Maximum right column: 80

[✓ Fixed right margin]

Right column: 80

Parent tag right margin

☑ Include tags in width calculation

☐ Preserve width of existing content

Treat as content (e.g. <b>, no Tag Layout)

Preserve content (e.g. <pre>)

There are three main (mutually-exclusive) options:

- **Wrap tag content** - When selected, content between tags is wrapped according to the settings specified in the **Tag content width** group box. See Tag Content Width Settings below for details.
- **Treat as content** - When selected, the tag as well as its content is wrapped according to the parent tag content. The tag is treated as "inline" with the surrounding text. This could be useful for style tags such as <b> or <i> that you want to appear "inline" with the content. For example:

```
<div>
    This is a sample paragraph with the <b>bold tags</b> being treated as
    content, "inline" with the rest of the text.
</div>
```

- **Preserve content** - When selected, content between start and end tags is not wrapped, but the tags are laid out properly with the parent tag. This could be useful for tags such as <pre>, where the content needs to be rendered exactly as it appears in the code.

Note

- When **Treat as content** is selected, the wrapping options in the **Tag content width** group box, as well as options on the **Tag Layout** tab, are unavailable.
- When **Preserve content** is selected, the wrapping options in the **Tag content width** group box are unavailable.

Tag Content Width Settings

When **Wrap tag content** is selected, content between tags is wrapped according to the settings specified in this group box. The options **Fixed width**, **Automatic width**, and **Fixed right margin** are mutually exclusive.

- **Fixed width** - When selected, tag content is formatted to the specified width. The original left margin of the content is maintained, and the right margin is adjusted to meet the target width.

  If **Maximum right column** is used, lines will be wrapped when they reach the specified column, even if they have not reached the specified fixed width. This is useful if coding standards mandate that text should not exceed a specified column.

- **Automatic width** - When selected, the width of the longest multi-line paragraph in the tag's content is used as the width. This is useful for preserving the formatting of existing content.

  If **Maximum right column** is used, lines will be wrapped when they reach the specified column, even if they have not reached the specified automatic width. This is useful if coding standards mandate that text should not exceed a specified column.

- **Fixed right margin** - When selected, lines will break before the specified number of columns in the **Right column** field has been reached.

Tip

If coding standards mandate that text should not exceed a specified column, you can still use Fixed or Automatic width settings. Select and set the **Maximum right column**, and lines will be wrapped when they reach the specified column, even if they have not reached the specified fixed or automatic width.

- **Parent tag right margin** - When selected, tag content is wrapped at the right margin to the width of the parent tag.
- **Include tags in width calculation** - When selected, the start and end tag characters are counted in addition to the content. The number of characters and spaces (including attributes) within tags are cal-

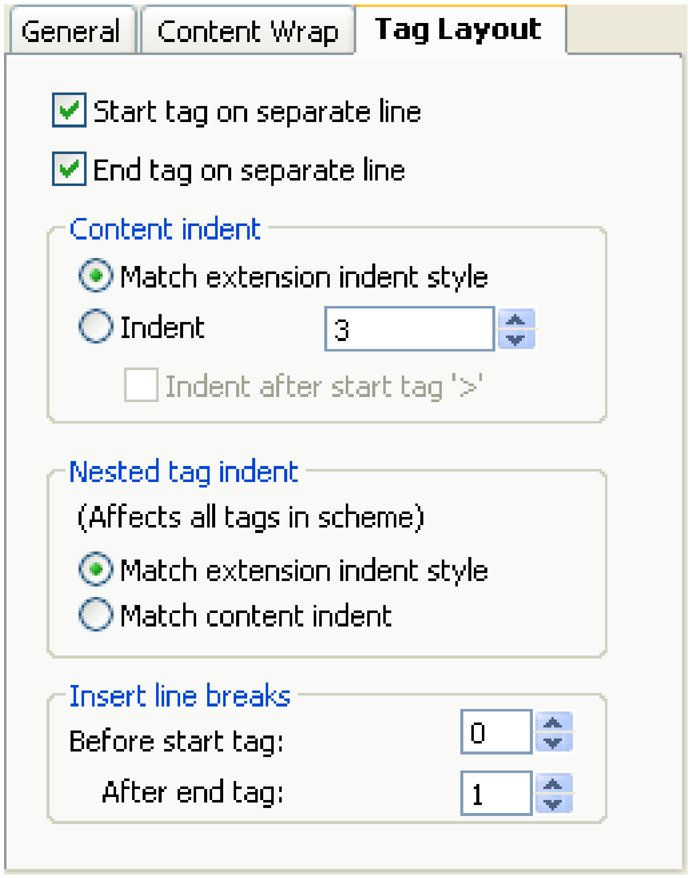
culated, and the specified width is adjusted accordingly. This is useful for producing uniform blocks of text.

- **Preserve width of existing content** - When selected, SlickEdit® Core preserves the width of the existing content while editing. The width is determined by the length of the longest multi-line paragraph. If the width of the existing content cannot be determined, the formatting option specified (**Fixed**, **Automatic**, or **Fixed right**) will be used instead.

Tag Layout Settings

The **Tag Layout** tab of the XML/HTML Formatting dialog contains options to control the location of the start tag, end tag, and the content between them.

Figure 7.36. XML/HTML Formatting: Tag Layout Tab



[✓] Start tag on separate line
[✓] End tag on separate line

Content indent
(●) Match extension indent style
( ) Indent 3
[ ] Indent after start tag '>'

Nested tag indent
(Affects all tags in scheme)
(●) Match extension indent style
( ) Match content indent

Insert line breaks
Before start tag: 0
After end tag: 1

- **Start tag on separate line** - When selected, the start tag occurs on a separate line, and the cursor will be placed on the line below for you to type the content. Note the cursor location (**|**) in the examples below.

- **End tag on separate line** - When selected, the end tag placed on a separate line below the content.

  Example of both settings checked:

```
<div>
     |
</div>
```

Example of both settings unchecked:

```
<div>|</div>
```

Example of start checked and end unchecked:

```
<div>
    |</div>
```

Note

Dynamic Surround is triggered when you type a tag that has both options **Start** and **End tag on separate line** checked. Note that Dynamic Surround cannot wrap content and only indents to match the indent style you have specified on the Indent Tab of the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). See Syntax Indent for more information.

- **Content indent group settings -** These mutually-exclusive options control how content between tags is indented:
  - **Match extension indent style -** When selected, tag content is indented according to the settings on the Indent Tab of the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). See Syntax Indent for more information on setting extension-specific indent styles.
  - **Indent -** When selected, indenting for the tag occurs at the column number specified in the spin box. When **Indent after start tag '>'** is selected, indenting is relative to the close bracket. Otherwise indenting is relative to the open bracket.
- **Nested tag indent settings -** Indenting is activated after the end tag is typed (or automatically inserted if **Insert end tags on '>'** is checked on the **General** tab). These mutually-exclusive settings apply to all tags in the selected scheme:
  - **Match extension indent style -** When selected, SlickEdit® Core indents the selected tag according to the indent style you have specified on the Indent Tab of the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). See Syntax Indent for more information on setting extension-specific indent styles.
  - **Match content indent -** When selected, SlickEdit Core indents the selected tag to the same level as its parent content.
- **Insert line breaks settings -** The values for **Before open tag** and **After close tag** specify the number of line breaks that are inserted before and after begin and end tags. Note that in order to insert one or

more blank lines, the values should be set to **2** or higher.

More Settings

The XML/HTML Formatting dialog contains two buttons along the bottom that allow you to configure even more settings for these languages. These buttons are shortcuts to the extension options that are usually accessed through the **Options** button on the Extension Options dialog. See XML Formatting Options and HTML Formatting Options for more information on these dialogs.

Ada

This section describes some of the features and options that are available for Ada, including extension-specific options and the Ada Beautifier.

Ada Formatting Options

Keyword casing options are available for Ada language file extensions. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, choose the language extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected will be displayed.

Note

Languages similar to Ada have similar Formatting Options dialogs which are not specifically documented.

Keyword case specifies the case of keywords used by template editing. If **Auto case keywords** is selected, the case of keywords are changed to the keyword case specified when you type them. For example, when you type the word "procedure" and the **Keyword case** is set to **Upper case**, the editor changes "procedure" to "PROCEDURE".

Ada Beautifier

You can beautify Ada files and change the beautify settings by using the Ada Beautifier dialog box. This dialog box can be accessed from the main menu by clicking **Format** → **Beautify**, or by using the **gui_beautify** command.

To instantly beautify Ada code according to the settings that are selected on the Ada Beautifier dialog box, use the **ada_beautify** or **ada_beautify_selection** commands.

The following settings and operations are available on the Ada Beautifier:

- **Restrict to selection** - When checked, only lines in the selection are beautified.
- **Sync extension options** - When checked, the extension options are updated to reflect any changes that these dialogs have in common.
- **Beautify** - Beautifies current selection or buffer and closes the dialog box.
- **Reset** - Restores the dialog box settings to the values that appeared when you invoked the dialog.
- **Save Settings** - Saves beautify options in the `uformat.ini` file. These settings are used by the **ada_beautify** command.

The tabs on the Ada Beautifier are described in the sections below.

Indent Tab

The following settings are available:

- **Indent with tabs** - When checked, tab characters are used for leading indent of lines. This value defaults to the **Tabs** text box on the Indent Tab of the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting).
- **Indent for each level (Syntax indent)** - The amount to indent for each new nesting level. The words "Syntax indent" are in parenthesis to help indicate that this field has the same meaning as the **Syntax indent** text box on the Indent Tab of the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). By default, this text box is initialized with the current extension setup setting.
- **Tab size** - Specifies output tab size. The output tab size is only used if the **Indent with tabs** check box is selected on the Indent Tab of the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). This value defaults to the **Syntax indent** text box on the Indent Tab of the Extension Options dialog box.
- **Original tab size** - Specifies what the original file's tab expansion size was. It is necessary to know the tab expansion size of your original file to handle reusing indent amounts from your original file. Currently the beautifier only reuses the original source file's indenting for comments. This option has no effect if the original file has no tab characters.
- **Continued Lines**
  - **Max line length** - Specifies the maximum length a statement line can be before it is wrapped to a new line. Set this value to **0** to preserve line breaks.
  - **Continuation indent** - Specifies how much to indent lines of statements which continue to the next line. This has no affect on assignment statements or parenthesized expressions. Lines which are a continuation of an assignment statement are indented after the first equal sign (**=**). Lines which are a continuation of a parenthesized expression are indented after the open paren.
- **Operator position** - Specify where the operator should be positioned when breaking a statement across multiple lines. For example, given the statement:

  ```
  Seconds := Days * Hours_Per_Day * Minutes_Per_Hour * Seconds_Per_Minute ;
  ```

  An operator position setting of **End of same line** would result in:

  ```
  Seconds := Days *
  Hours_Per_Day *
  Minutes_Per_Hour *
  Seconds_Per_Minute ;
  ```

An operator position setting of **Beginning of next line** would result in:

```
Seconds := Days
* Hours_Per_Day
* Minutes_Per_Hour
* Seconds_Per_Minute ;
```

Statements/Declarations Tab

The following options are available on the **Statements/Declarations** tab:

- **Reserved word case** - Specifies the case for reserved words. For example, if you choose **UPPER**, then the Ada reserved word "procedure" would be beautified to "PROCEDURE".
- **One statement per line** - When checked, only one statement is allowed per line of code.
- **One declaration per line** - When checked, only one declaration is allowed per line of code.
- **One parameter per line** - When checked, only one parameter is allowed per line of code in a formal parameter list of a subprogram specification.
- **One enumeration per line** - When checked, only one enumeration is allowed per line of code in an enumerated type definition.

Horizontal Spacing Tab

This tab allows you to specify how certain operators and separators are padded. The following options are available:

- **Item** - Syntactic item to which padding settings get applied.

Note

The "Binary operators" item includes: **+ - * / ** := = /= => <= >= < >**

- **Padding Before** - When checked, one space is placed before the item.
- **Padding After** - When checked, one space is placed after the item.
- **Padding Preserve** - When checked, the original padding (or lack of padding) around the item is preserved.

Vertical Alignment Tab

The following options are available on the **Vertical Alignment** tab:

- **Align on declaration colon** - When checked, adjacent declaration lines (including parameter specifications) have their colons vertically aligned. For example, before beautify:

```
procedure foo ( A_Var : Boolean ;
   Another_Var : Boolean) ;
```

After beautify:

```
procedure foo ( A_Var       : Boolean ;
                Another_Var : Boolean ) ;
```

- **Align on declaration in-out** - When checked, the modes of parameter specifications in the formal part of a subprogram declaration are vertically aligned. For example, before beautify:

  ```
  procedure foo ( A_Var : in Boolean ;
     Another_Var : in out Boolean);
  ```

  After beautify:

  ```
  procedure foo ( A_Var       : in     Boolean ;
                  Another_Var : in out Boolean ) ;
  ```

Blank Lines Tab

The following options are available on the **Blank Lines** tab:

- **Item** - Syntactic item to which blank lines settings get applied.
  - **Subprogram declaration** - Procedure or Function declaration.
  - **Subprogram body** - Procedure or Function body.
  - **Type declaration** - Any declaration that begins with the reserved word "TYPE".
  - **for…use** - Aspect clause. For example:

    ```
    for Medium'Size use 2*Byte;
    ```

  - **Subunit comment header** - The comment block that appears just before a subunit (e.g. Procedure body, etc.).
  - **begin/end** - Any line that starts with the reserved words "begin" or "end."
  - **if/elsif/else** - The **if**, **elsif**, and **else** parts of an **if** statement.
  - **return** - Any line that starts with the reserved word "return."
  - **Loops** - Loop statements (e.g. **loop**, **while**, **for**).

  - **Nested paren list item** - A parenthesized item that is itself enclosed in a larger parenthesized list. For example, before beautify:

    ```
    Default_Data : constant Data_Type :=
       ( A_Set => ( others => ( Item1 => false ,
                                Item2 => false ,
                                Item3 => false ) ) , -- Paren’d item enclosed
    in larger paren’d list
         B_Set => ( others => ( Item1 => false ,
                                Item2 => false ,
                                Item3 => false ) ) ) ;
    ```

    After beautify:

    ```
    Default_Data : constant Data_Type :=
       ( A_Set => ( others => ( Item1 => false ,
                                Item2 => false ,
                                Item3 => false ) ) , -- Paren’d item enclosed
    in larger paren’d list

         B_Set => ( others => ( Item1 => false ,
                                Item2 => false ,
                                Item3 => false ) ) ) ;
    ```

- **Before** - Specify how many blank lines are inserted before item.
- **After** - Specify how many blank lines are inserted after item.
- **Between** - Specify how many blank lines are inserted between like items.

Comments Tab

The following options are available on the **Comments** tab:

- **Comment lines immediately below a type declaration indented by** - The amount to indent a comment appearing immediately below a TYPE declaration.
- **Trailing comments** - Trailing comments appear at the end of lines which contain statements or declarations. For example:

  ```
  A := B + C ;  -- This is a trailing comment
  -- This is not a trailing comment
  procedure foo ( A_Var : Boolean ) ;
  ```

  - **Specific column** - When selected, trailing comments are placed at the specified column.
  - **Indent by** - When selected, trailing comments are indented by the specified number of columns after

the last character of the end of the statement or declaration.

- **Original relative indent** - When selected, trailing comments are indented by reusing the indent after the last character of the end of the statement or declaration of the original source file.
- **Force type declaration comments to next line** - When selected, trailing comments appearing at the end of a TYPE declaration line are forced onto the next line.

Advanced Tab

The following options are available on the **Advanced** tab:

- **if-then-else continued lines** - Use these advanced options to customize how multi-line conditional expressions of an **if-then-else** statement are indented.
  - **Force a linebreak on logical operators** - A line break is forced before/after (depending on your Operator position setting) every logical operator in the condition of an **if/elseif**. For example, before beautify:

    ```
    -- Indent per level = 3
    -- Operator position = Beginning of next line

    if A = B and C = D then
       null ;
    end if ;
    ```

    After beautify:

    ```
    if A = B
       and C = D then
       null ;
    end if ;
    ```

  - **Additional indent for logical operator** - Additional indent amount for a line broken on a logical operator. This amount is in addition to the current indent level. For example, before beautify (Indent per level = 3; Operator position = Beginning of next line; Additional indent for logical operator = 3):

    ```
    -- Indent per level = 3
    -- Operator position = Beginning of next line
    -- Additional indent for logical operator = 3

    if A = B and C = D then
       null ;
    end if ;
    ```

    After beautify:

```
if A = B
      and C = D then
   null ;
end if ;
```

- **Additional indent for logical operator when followed by another line that begins with logical operator** - Additional indent amount for a line broken on a logical operator that is followed by another line that also is broken on a logical operator that is different. This amount is in addition to the current indent level, and in addition to the **Additional indent for logical operator** setting.

  For example, before beautify (Indent per level = 3; Additional indent for logical operator = 3; Additional indent for logical operator when followed by another line that begins with different logical operator = 3):

```
-- Indent per level = 3
-- Operator position = Beginning of next line
-- Additional indent for logical operator = 3
-- Additional indent for logical operator when
--   followed by another line that begins with different logical operator
= 3

if A = B and then C = D or else E = F then
   null ;
end if ;
```

  After beautify:

```
if A = B
         and then C = D
      or else E = F then
   null ;
end if ;
```

Schemes Tab

To define a new scheme, set the various beautify options then click the **Save Scheme** button. User-defined schemes are stored in `uformat.ini`.

COBOL

This section describes some of the advanced options that are available for COBOL.

COBOL Formatting Options

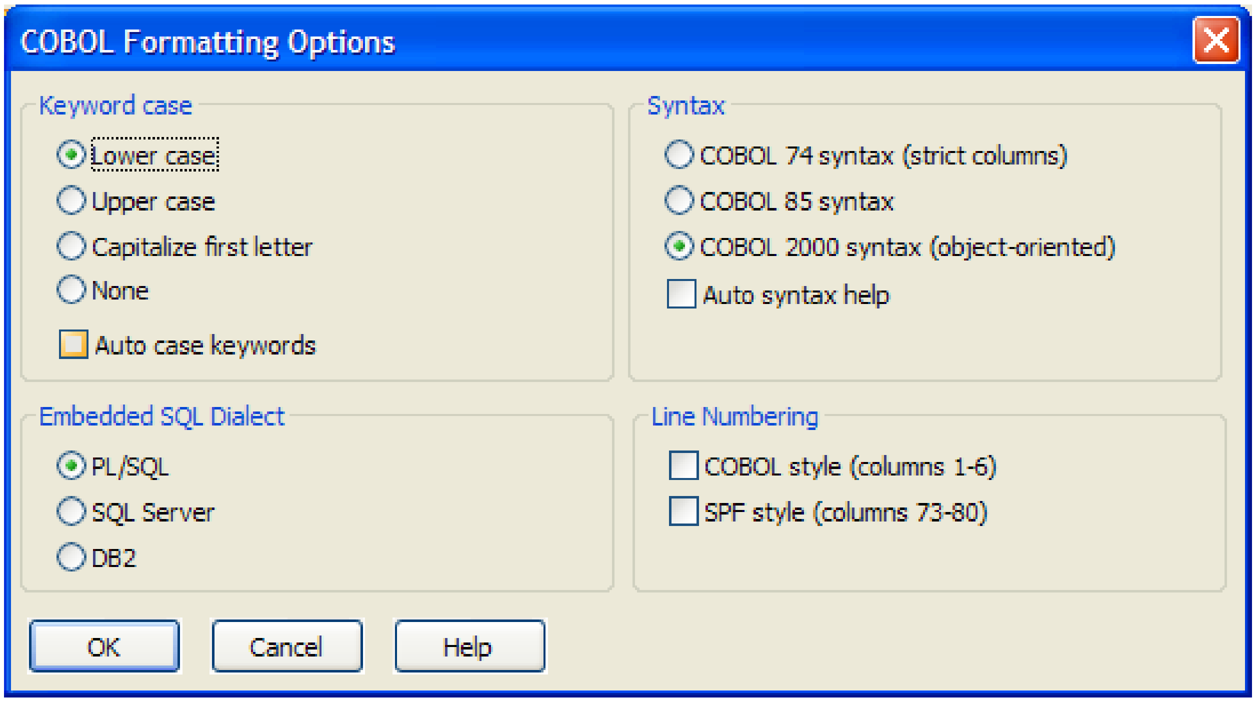
Options are available for the COBOL language file extension, for changing smart indenting and styles for template editing. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the language extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected will be displayed.

Note

Languages similar to COBOL have similar Formatting Options dialogs which are not specifically documented.

The COBOL Formatting Options dialog is pictured below.

Figure 7.37. COBOL Formatting Options Dialog



COBOL Formatting Options

Keyword case

[✓ Lower case] Upper case Capitalize first letter None

☐ Auto case keywords

Syntax

COBOL 74 syntax (strict columns) COBOL 85 syntax [✓ COBOL 2000 syntax (object-oriented)]

☐ Auto syntax help

Embedded SQL Dialect

[✓ PL/SQL] SQL Server DB2

Line Numbering

☐ COBOL style (columns 1-6)

☐ SPF style (columns 73-80)

The following options are available:

- **Keyword case -** Specifies the case of keywords used by template editing. If **Auto case keywords** is selected, the case of keywords are changed to the keyword case specified when you type them. For example, when you type the word "procedure" and the **Keyword case** is set to **Upper case**, the editor changes "procedure" to "PROCEDURE".

- **Syntax -** Select the type of syntax to use. **COBOL 74** and **COBOL 2000 syntax** are mutually exclusive options.
- **Embedded SQL Dialect -** Specifies the specific type of SQL that is embedded in your COBOL source. This affects embedded SQL-language color coding.
- **Line Numbering -** Choose the line numbering style from the following options:
  - **COBOL style line numbering -** When selected, expect line numbers in columns one through six when renumbering lines.
  - **SPF style line numbering -** When selected, expect line numbers in columns 73 through 80 when renumbering lines.

Pascal

This section describes some of the advanced options that are available for Pascal.

Pascal Formatting Options

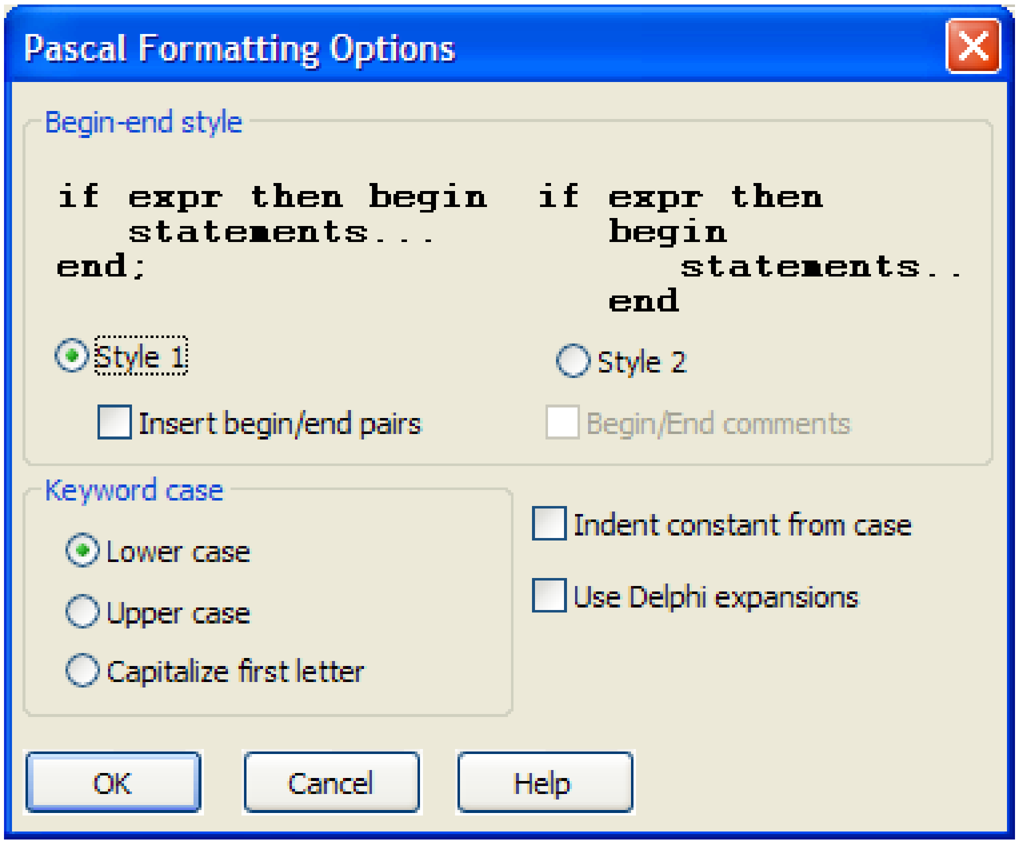
Options are available for the Pascal language file extension, for changing smart indenting and styles for template editing. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the Pascal language extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected will be displayed.

Note

Languages similar to Pascal have similar Formatting Options dialogs which are not specifically documented.

The Pascal Formatting Options dialog is pictured below.

Figure 7.38. Pascal Formatting Options Dialog



Pascal Formatting Options

Begin-end style

```
if expr then begin        if expr then
   statements...             begin
end;                            statements..
                             end
```

[✓ Style 1] Style 2

Insert begin/end pairs: ☐

Begin/End comments: ☐

Keyword case: [✓ Lower case] Upper case Capitalize first letter

Indent constant from case: ☐

Use Delphi expansions: ☐

The following options are available:

- **Begin-end style** - Specify the begin/end style used by template editing and smart indenting. For each style, select from the following options:
    - **Insert begin/end pairs** - Specifies whether template should be inserted with **begin** and **end**.
    - **Begin/End comments** - Specifies whether a comment is appended after the **end** keyword to indicate the type of loop or case it terminates. In addition the **begin** and **end** for procedures and functions are commented. No comment is appended to the **begin/end** pair of an **if** statement.
- **Keyword case** - Specifies the case of keywords used by template editing.
- **Indent constant from case** - Specifies whether constants of a case statement are indented or aligned to the case keyword.
- **Use Delphi expansions** - Specify whether Delphi®-style expansions should be used.

PL/I

This section describes some of the advanced options that are available for the PL/I language.

PL/I Formatting Options

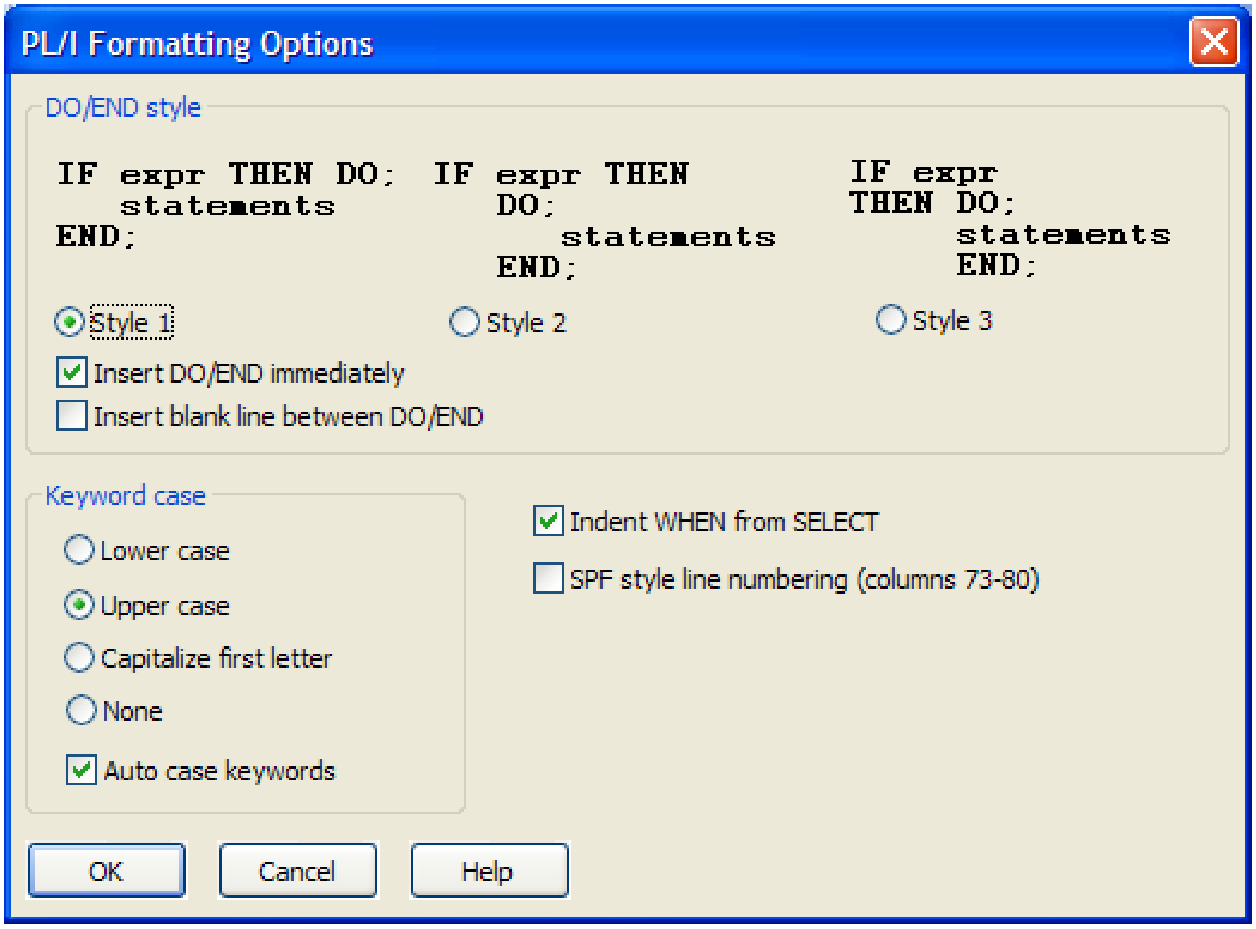
Options are available for the PL/I language file extension, for changing smart indenting and styles for template editing. To access these options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. Choose the PL/I language extension you wish to work with from the **Extension** drop-down list, then click the **Options** button. The Formatting Options dialog specific to the file extension you have selected will be displayed.

Note

Languages similar to PL/I have similar Formatting Options dialogs which are not specifically documented.

The PL/I Formatting Options dialog is pictured below.

Figure 7.39. PL/I Formatting Options Dialog



```
IF expr THEN DO;
   statements
END;
```

```
IF expr THEN
   DO;
      statements
   END;
```

```
IF expr
THEN DO;
        statements
     END;
```

[✓ Style 1] Style 2 Style 3

- [✓] Insert DO/END immediately
- [ ] Insert blank line between DO/END

Keyword case: Lower case [✓ Upper case] Capitalize first letter None

- [✓] Auto case keywords
- [✓] Indent WHEN from SELECT
- [ ] SPF style line numbering (columns 73-80)

The following options are available:

- **DO/END style** - Select the syntax expansion style that indicates whether syntax expansion should place the DO on a separate line, then select from the following options:
  - **Insert DO/END immediately** - Indicates whether syntax expansion should automatically add a DO/ END block.
  - **Insert blank line between DO/END** - Indicates whether syntax expansion should insert a blank line when a DO/END block is inserted.
- **Keyword case** - Specifies the case of keywords used by template editing. If **Auto case keywords** is selected, the case of keywords are changed to the keyword case specified when you type them. For example, when you type the word "procedure" and the **Keyword case** is set to **Upper case**, the editor changes "procedure" to "PROCEDURE".
- **Indent WHEN from SELECT** - Indicates whether the WHEN clause inside a SELECT statement should be indented.
- **SPF style line numbering (columns 73-80)** - When selected, expect line numbers in columns 73 through 80 when renumbering lines.

Python

This section describes some of the advanced features that are available for the Python language.

Begin/End Structure Matching for Python

Begin/End Structure Matching moves the cursor from the beginning of a code structure to the end, or vice versa.

To place the cursor on the opposite end of the structure when the cursor is on a begin or end keyword pair, press **Ctrl+]** (**find_matching_paren** command or from the menu click **Search** → **Go to Matching Parenthesis**). The **find_matching_paren** command supports matching parenthesis pairs **{ }**,**[ ]** and **( )**.

For Python, SlickEdit® Core supports the matching of the colon (**:**) token and the end of context.

Note the cursor location in the code block below:

```
def function_foo(arg):| <- cursor

    ....
    return 0| <- destination
```

Executing **find_matching_paren** will move the cursor to the end of line containing the **return 0** statement. Executing it while the cursor is at the end of the **return 0** statement will bring the cursor back to the colon (**:**) position of the function signature line (**def function_foo(arg):**).

This works on **function**, **class**, **for**, **while**, **if**, and **try** statements.

There is one limitation of this feature. Note the following code block:

```
for i in xrange(0, 10):| <- A
    for j in xrange(0, 10):| <- B
        for k in xrange(0, 10):| <- C
            print i, j, k| <- D
```

Invoking **find_matching_paren** at position A, B, or C will move the cursor to D, but doing so while the cursor is at D will only move the cursor back to C (not A nor B). This is because the Python language doesn't have the notion of end-of-scope token (such as **}** in C/C++, Java, etc.), so it's impossible to determine the correct destination when jumping from D. Therefore we pick the nearest possible destination in this scenario.

See Begin/End Structure Matching for more information about this feature.

Chapter 8. Tools and Utilities

Comparing and Merging

SlickEdit® Core provides two powerful ways to compare and merge files: DIFFzilla and 3-Way Merge.

DIFFzilla®

DIFFzilla provides powerful differencing capabilities that let you compare files or directories and view the differences side-by-side. You can make edits, merge changes, and save modified files easily within the results windows. As edits are made, the diff view is updated as you type, so you don't have to re-run the comparison. And, switching from a directory comparison to an individual file difference is as simple as a mouse click.

With DIFFzilla, you can:

- View differences between two files. See Comparing Two Files.
- View differences between symbols and parts of files. See Comparing Symbols or Parts of Files.
- View differences between all of the symbols in two files. See Comparing All Symbols of Two Files.
- View differences between source trees. See Comparing Two Directories.
- See intra-line differences, color-coded as you type. See Dynamic Difference Editing.
- Generate file lists. See Generating File Lists.
- Specify automatic directory mapping. See Automatic Directory Mapping.
- Save/restore multi-file results.
- Utilize dialog box history (wild cards, paths, file specifications).

Using the DIFFzilla® Dialog

The following sections describe how to use DIFFzilla and the differencing features in SlickEdit® Core. For more details on the specific options available on the DIFFzilla dialog (**Tools** → **File Difference** or **diff** command), see DIFFzilla Dialog.

Dynamic Difference Editing

DIFFzilla® allows you to *diff*, or compare, files, and provides the ability to view the differences side-by-side or interleaved (one on top of the other). The output is color-coded. The side-by-side output differences can be merged from one file to the other, and you can edit the files directly inside the DIFFzilla dialog—this is called Dynamic Difference Editing.

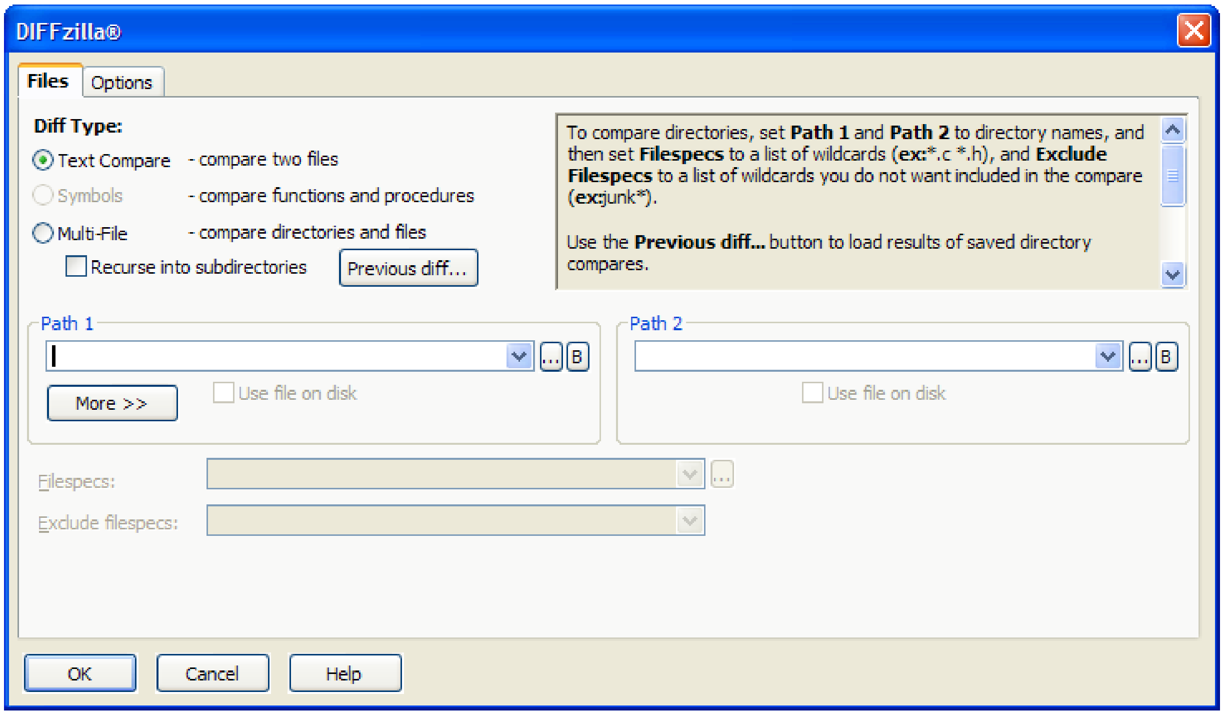
Undo, copy/paste, Syntax Expansion/indenting, SmartPaste®, Auto List Members, Auto Parameter Info and many emulation key mappings work when editing in the DIFFzilla dialog box. When you type or make any edit, lines are re-diffed (compared again) so that you can view the new intra-line differences easily.

Comparing Two Files

To diff two source files, complete the following steps:

1. From the main menu click **Tools** → **File Difference**, or use the **diff** command. The DIFFzilla® dialog appears, as pictured below.

Figure 8.1. DIFFzilla® Dialog



Diff Type:
[✓ Text Compare] - compare two files
Symbols - compare functions and procedures
Multi-File - compare directories and files
Recurse into subdirectories
Previous diff...

To compare directories, set **Path 1** and **Path 2** to directory names, and then set **Filespecs** to a list of wildcards (**ex:***.c *.h), and **Exclude Filespecs** to a list of wildcards you do not want included in the compare (**ex:**junk*).

Use the **Previous diff...** button to load results of saved directory compares.

Use file on disk
Use file on disk
Filespecs:
Exclude filespecs:

2. Under **Diff Type**, select the **Text Compare** option.
3. Enter the name of the first file to compare in the **Path 1** text box. Enter the name of the second file in the **Path 2** text box. If the file names only differ by path, you only need to specify the path for **Path 2**.
4. Click **OK**.

Alternatively, you can use DIFFzilla to diff files from several Eclipse views, including the Package Explorer and the Project Explorer:

1. From the Eclipse view, select the two files that you want to diff and right-click.
2. From the **Compare With** submenu, click **Each Other (DIFFzilla)**.

Comparing Symbols or Parts of Files

DIFFzilla® provides the ability to diff (compare) a selected range of lines from two files or the same file. This is very useful for comparing a piece of code that has been moved into a different part of a different file.

Note

You can only use the interactive dialog output style when diffing a selected range of lines. Therefore, the option **Instead of an interactive dialog, output one buffer with the differences labeled**, on the DIFFzilla dialog **Options** tab, will have no effect.

To compare symbols, select the **Symbols** option under **Diff Type** on the DIFFzilla dialog, and all symbols from Path 1 will be diffed against all symbols from Path 2. If **Multi-File** is selected as the **Diff Type**, it always allows you to diff all symbols. Be sure to be careful when diffing all symbols. Some symbol blocks are not yet picked up correctly. For example, for C++, C#, and Java, variable initializations are not yet handled correctly, as shown in the code below:

```
struct MYSTRUCT {
          int x;
          int y;
      };

      MYSTRUCT VariableDefinition= { // symbol definition stops here
         0,1
      };     // really should end here
```

To diff a selected range of lines from two source files, complete the following steps:

1. From the main menu, click **Tools** → **File Difference**.
2. Select the **Multi-File** diff type.
3. Type the name of the first file in the **Path 1** text box.
4. Click **More**, and type the start and end line numbers next to **Line range** label.
5. Type the name of the second file in the **Path 2** text box and type the start and end line numbers next to **Line range** label. If the file names only differ by path, you need to specify the path for **Path 2** only.
6. When differencing a symbol definition, click **Symbols** to enter the line number range.

Comparing All Symbols of Two Files

DIFFzilla® allows you to diff all the symbols of two different files. This feature is most useful for diffing files with symbols that have been moved around. To diff all the symbols of two source files, complete the following steps.

1. From the main menu, click **Tools** → **File Difference** (or use the **diff** command).
2. Enter the first file in the **Path 1** text box.
3. Enter the second file in the **Path 2** text box. If the file names only differ by path, you need to specify the

path for **Path 2** only.

4. In the **Diff type**, select **Symbols** and click **OK**. You do not need to turn on the **Diff all symbols** check box when performing a multi-file diff because mismatching files will have a plus sign (**+**) in front of them so that you can diff all of the symbols.

Comparing Two Directories

You can differences two source trees to determine what files have been added or removed and generate a list of file names. When the source tree difference is complete, click **Save** to generate a list file. To diff two source trees, complete the following steps:

1. From the main menu, click **Tools** → **File Difference**, or use the **diff** command.
2. Mark the **Recurse into subdirectories** check box to compare subdirectories.
3. Enter the two directories in the **Path 1** and **Path 2** text boxes.
4. Fill in the **Filespecs** text box with the files that you want processed.
5. Click **OK**. The Multi-File Diff Output dialog is displayed.

If a file exists in one tree but not the other, a plus sign (**+**) is displayed in the one tree and a minus sign (**-**) in the other. You can customize the files to view with the context menu. To display the context menu, right-click in the left or right tree. If you move the mouse over the **Plus** or **Minus** bitmap next to the item in the tool tree, a tooltip is displayed indicating what the bitmap means.

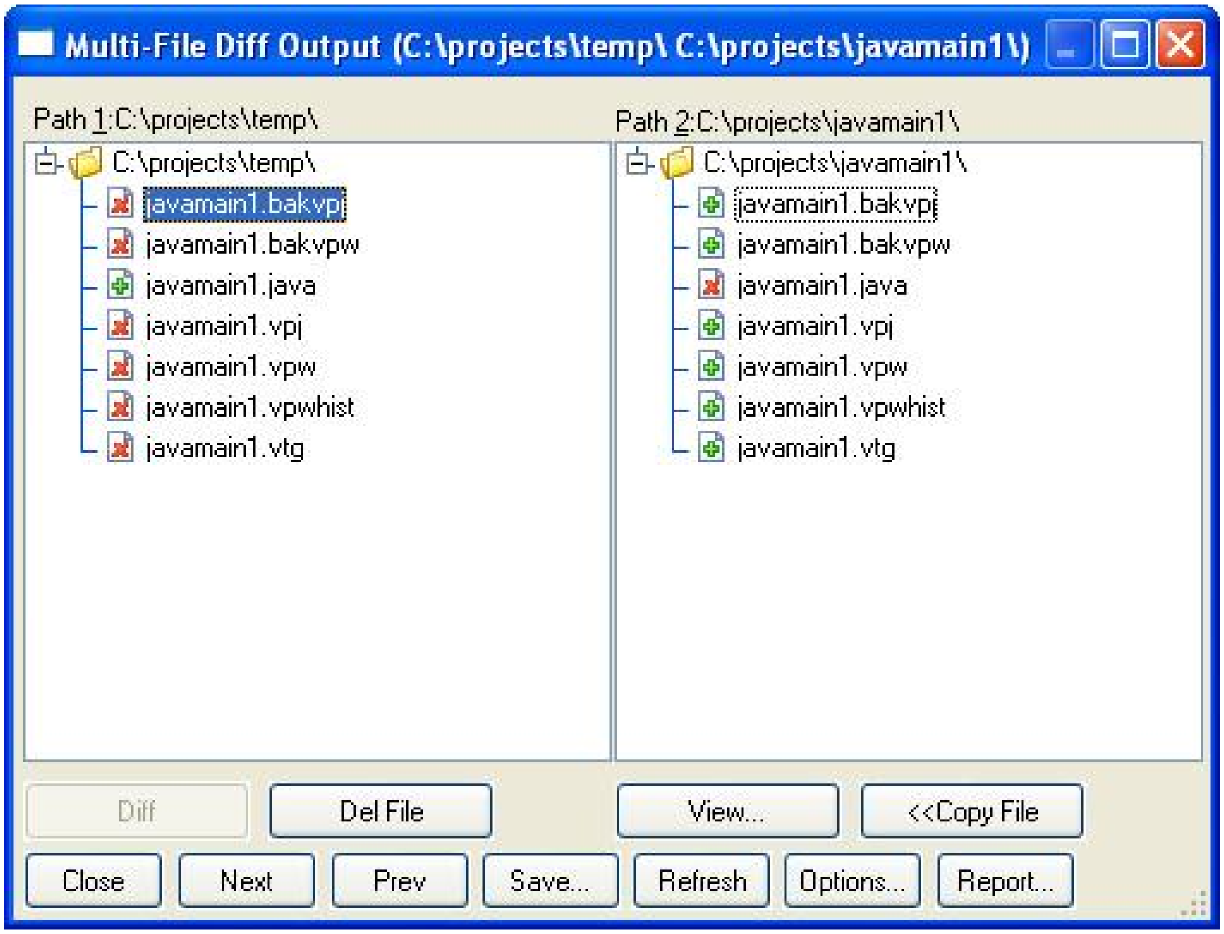
For descriptions of the buttons on the Multi-File Diff Output dialog, see Multi-File Diff Output Dialog.

Generating File Lists

DIFFzilla® can be used to find only the files that have been changed, and can generate file lists. The **Save** button in the Multi-File Diff Output dialog can create a list of files that includes different files, matching files, and files that do not exist in the other tree. Use the DIFFzilla dialog box to compare the new source tree with the original source tree.

1. From the main menu, click **Tools** → **File Difference**, or use the **diff** command.
2. On the **Files** tab, select **Multi-File**.
3. Enter the first file in the **Path 1** text box.
4. Enter the second file in the **Path 2** text box. If the file names only differ by path, you only need to specify the path for **Path 2**.
5. Click **OK**. The Multi-File Diff Output Dialog box opens.

Figure 8.2. Multi-File Diff Output Dialog



Path 1:C:\projects\temp\

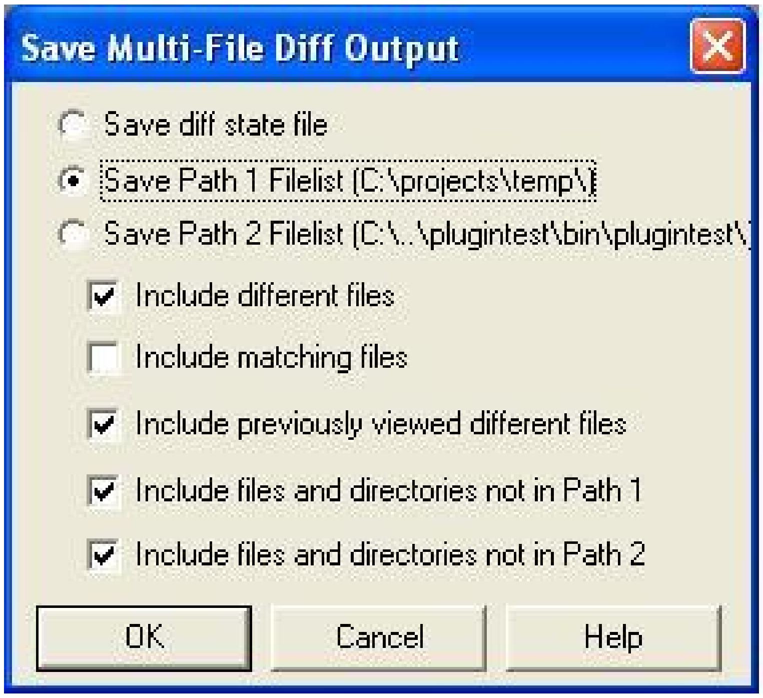
- C:\projects\temp\
  - javamain1.bakvpj
  - javamain1.bakvpw
  - javamain1.java
  - javamain1.vpj
  - javamain1.vpw
  - javamain1.vpwhist
  - javamain1.vtg

Path 2:C:\projects\javamain1\

- C:\projects\javamain1\
  - javamain1.bakvpj
  - javamain1.bakvpw
  - javamain1.java
  - javamain1.vpj
  - javamain1.vpw
  - javamain1.vpwhist
  - javamain1.vtg

6. Click **Save**. The Save Multi-File Output dialog box opens.

Figure 8.3. Save Multi-File Output Dialog


Save Multi-File Diff Output

( ) Save diff state file
(●) Save Path 1 Filelist (C:\projects\temp\)
( ) Save Path 2 Filelist (C:\..\plugintest\bin\plugintest\)

[✓] Include different files
[ ] Include matching files
[✓] Include previously viewed different files
[✓] Include files and directories not in Path 1
[✓] Include files and directories not in Path 2

7. Select **Save Path 1 Filelist**, **Include different files**, and **Include files not in Path2**. All other check boxes should be clear.

8. Click **OK** and select an output file for the list. The file you save will have the `.lst` extension appended to the output file name.

9. Zip the files if you want.

Automatic Directory Mapping

The DIFFzilla® dialog box automatically updates the **Path 2** text box with a directory, based on file paths that you previously typed in this field. For example, if you previously typed **f:\slick12\bitmaps\** into the Path 1 text box and **\\server\user\slick12\bitmaps\** into the Path 2 text box, then `f:\slick12\` is mapped to `\\server\user\slick12\`. The next time that you type **f:\slick12\macros\** in the Path 1 text box, **\\server\user\slick12\macros\** is automatically entered into the Path 2 text box.

To turn this option off, complete the following steps:

1. From the main menu, click **Tools** → **File Difference**, or use the **diff** command.

2. Select the **Options** tab.

3. Click **Dialog Setup**.

4. Clear the **Automatic directory mapping** check box.

Diffing File History

The Backup History feature is available for viewing and comparing the differences between the current and previous versions of an open file. It utilizes the DIFFzilla® dialog for diffs (see Using the DIFFzilla Dialog). For more information about this working with Backup History, see File History and Backups.

3-Way Merge

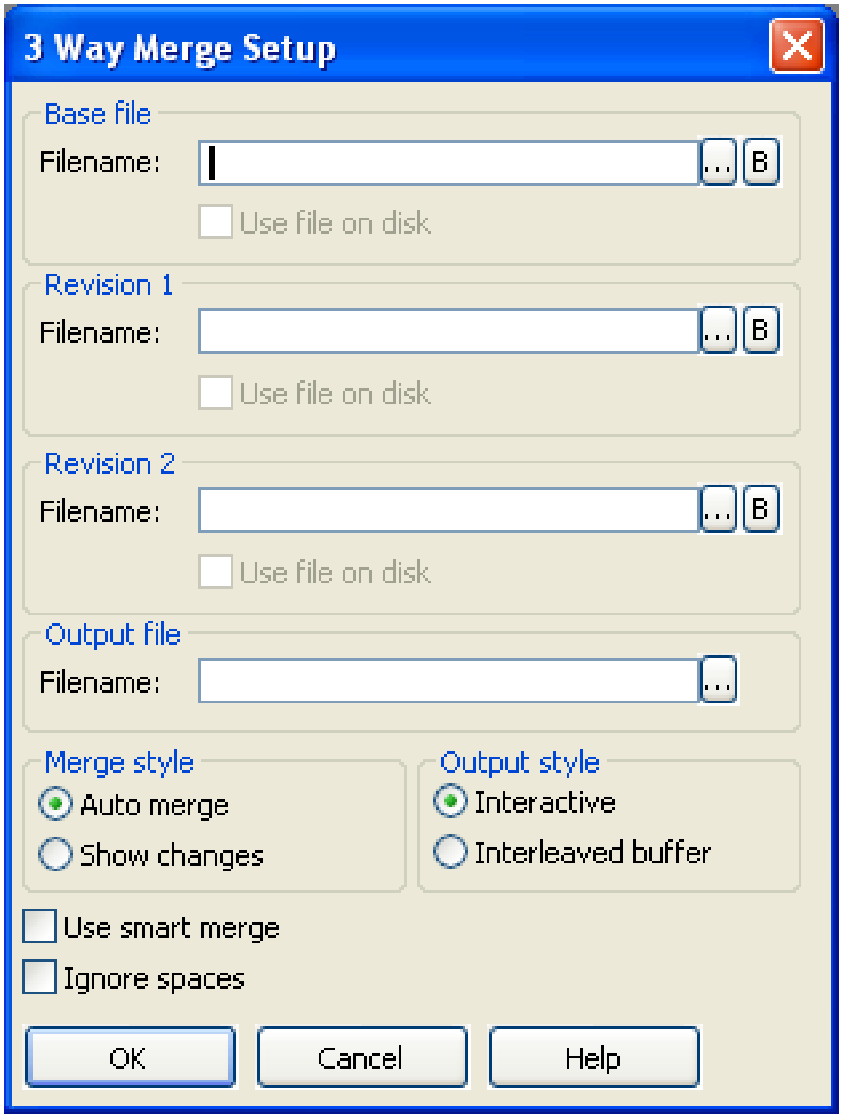
The 3-Way Merge editing feature can be used after two people make a local copy of the same source file, and each makes modifications to their local copy. The 3-Way Merge takes both sets of changes and creates a new source file. If there are any differences, a dialog box is displayed that lets you select the changes that you want in the output file. The output file can be viewed side-by-side or interleaved.

Performing a Three-Way Merge

To perform a three-way merge, complete the following steps:

1. From the main menu, click **Tools** → **File Merge** (or use the **merge** command). The 3-Way Merge Setup dialog is displayed.

   Figure 8.4. 3-Way Merge Setup Dialog



Merge style: (● Auto merge) Show changes

Output style: (● Interactive) Interleaved buffer

☐ Use smart merge

☐ Ignore spaces

2. In the **Filename** text box, enter the baseline (original) file name. Click the **Ellipses** button to the right of the text box to select files. Click the **B** button to select from the open buffers.

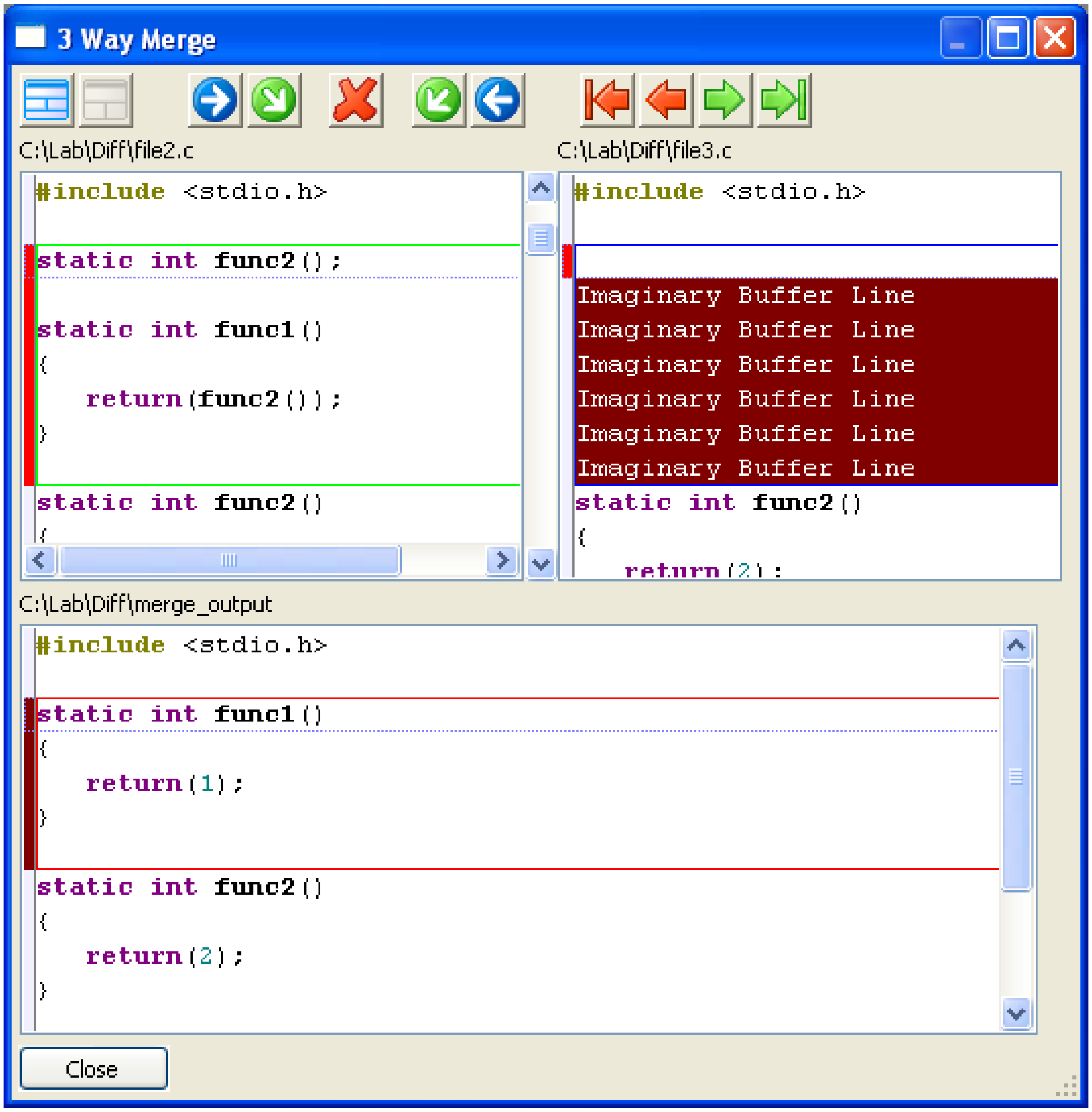
3. Enter the other names of the files to be merged in the **Revision 1** and **2** text boxes.

4. In the **Output file Filename** text box, enter the name of the output file, or click the **Ellipses** button to select from an existing file.

5. Select any **Merge style** or **Output style** that you want.

6. Click **OK**. The following dialog box is displayed with the results of the 3-Way Merge:

Figure 8.5. 3-Way Merge Results Dialog



```
#include <stdio.h>

static int func2();

static int func1()
{
    return(func2());
}

static int func2()
{
```

```
#include <stdio.h>


Imaginary Buffer Line
Imaginary Buffer Line
Imaginary Buffer Line
Imaginary Buffer Line
Imaginary Buffer Line
Imaginary Buffer Line
static int func2()
{
    return(2);
```

```
#include <stdio.h>

static int func1()
{
    return(1);
}

static int func2()
{
    return(2);
}
```

3-Way Merge Settings

For descriptions of the options on the 3-Way Merge Setup dialog, see 3-Way Merge Dialog.

File History and Backups

SlickEdit's Backup History is disabled in SlickEdit Core. Eclipse maintains their own backup history which you can access using the History view (**Window** → **Show View** → **Other**, expand **Team** and click **History**).

You can, however, use DIFFzilla® to compare and merge with the History view, instead of using the default Eclipse compare tool.

Compare Two Backup History Elements Using DIFFzilla

- Right-click on a file in an Eclipse explorer view (Package Explorer, Project Explorer, etc.) and select **Compare With** → **Local History**. This will activate the History view if necessary.
- Select the two revisions that you want to compare, right-click, and select **Compare with Each Other (DIFFzilla)**.

Compare a Local Backup History Element with the Current Version Using DIFFzilla

- Right-click on a file in an Eclipse explorer view (Package Explorer, Project Explorer, etc.) and select **Compare With** → **Local History**. This will activate the History view if necessary.
- Select the revision that you want to compare, right-click, and select **Compare Current with Local (DIFFzilla)**.

FTP

FTP support includes an FTP view window and the ability to easily open and edit FTP files.

Working with FTP

Before you can access FTP files, you must create an FTP profile, then start that connection. FTP operations can be accessed from the FTP view window or by right-clicking on FTP files after a connection is active.

FTP View

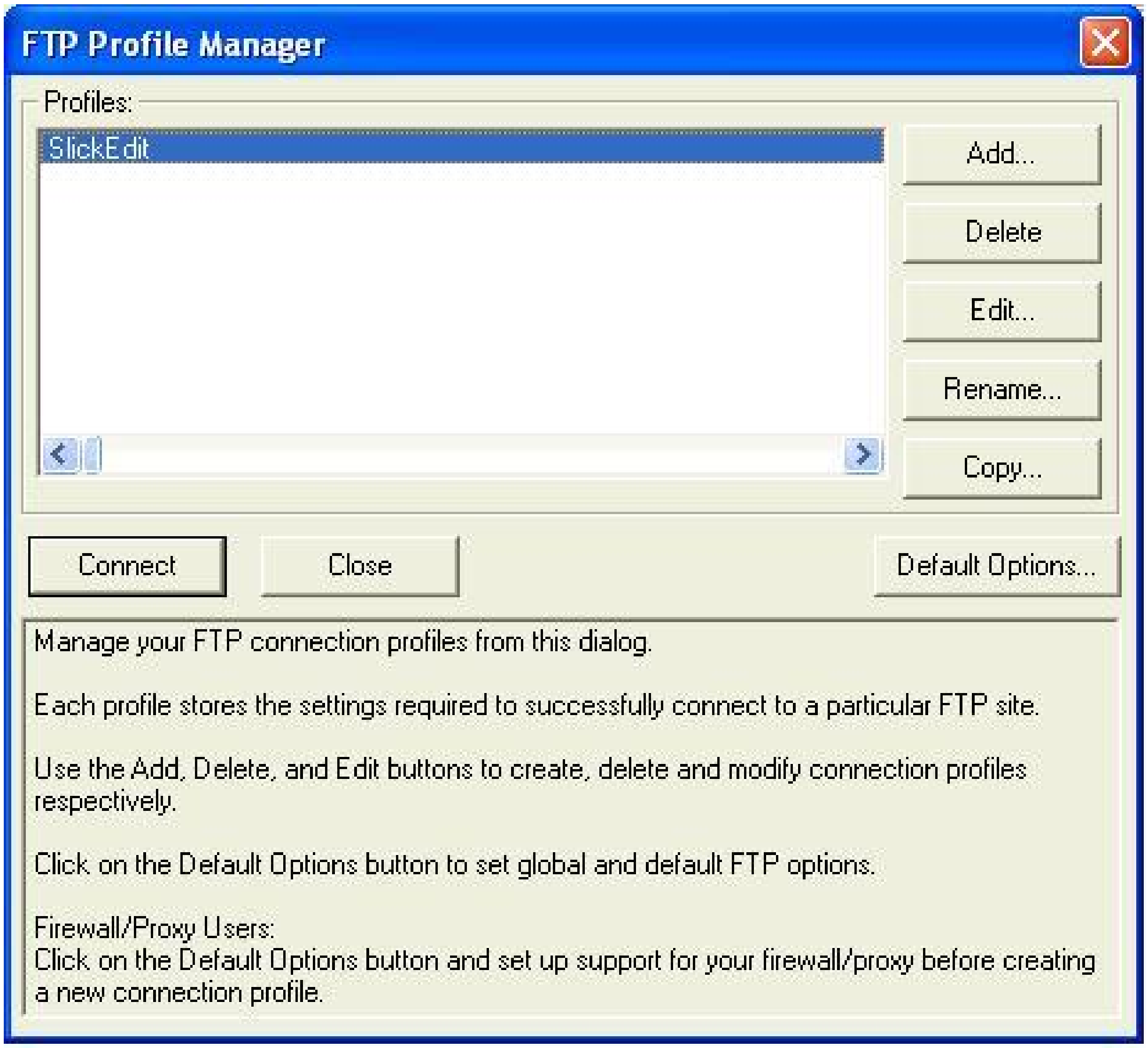
The FTP view can be used to connect to FTP servers and open files. To access this view, from the main menu, click **Window** → **Show View** → **Other**, expand **SlickEdit Views** and double-click **FTP**. Right-click on files to display a menu of FTP operations.

Creating a New FTP Profile

To create a new FTP connection profile, complete the following steps:

1. Display the FTP view and click the button labeled **Start a New Session** . The FTP Profile Manager dialog box is displayed, as pictured below.

   Figure 8.6. FTP Profile Manager Dialog



Manage your FTP connection profiles from this dialog.

Each profile stores the settings required to successfully connect to a particular FTP site.

Use the Add, Delete, and Edit buttons to create, delete and modify connection profiles respectively.

Click on the Default Options button to set global and default FTP options.

Firewall/Proxy Users:
Click on the Default Options button and set up support for your firewall/proxy before creating a new connection profile.

2. Click **Add** to create a new profile. The Add FTP Profile dialog box is displayed.

3. Click **Edit** to Edit a profile. The Edit FTP Profile dialog box is displayed.

See Setting FTP Options for information about the options on the Add or Edit FTP Profile dialogs.

Starting a Connection

To start a new connection, use the FTP view described above, and complete the following steps:

1. Click the FTP button to start a new session.

2. The FTP Profile Manager dialog box appears. From the **Profiles** list, select the profile name to connect to.

3. Click **Connect**. The FTP view displays the content of the remote directory.
4. Toggle the **ASCII Transfer mode** button to transfer text files. When in ASCII transfer mode, line ending characters may be translated.
5. Toggle the **Binary Transfer mode** button to transfer images and executables.
6. To stop the current operation, click the **Stoplight** button.

Stopping a Connection

To stop a connection, use the FTP view and complete the following steps:

1. Select the connection that you want from the drop-down list at the top of the view window.
2. Click the **Disconnect Current Session** button.

Opening FTP Files

Before you can open FTP files, you need to start a connection. See Starting a Connection above for more information. After your connection starts, from the FTP view window, right-click on selected files to open them, to change the directory, or to access more options.

Setting FTP Options

To access FTP options, on the FTP view window, click the button to start a new session. When the Connect dialog is displayed, click the **Default Options** button. The FTP Options dialog will be displayed. See FTP Options Dialog for a list of the available options.

The Regex Evaluator

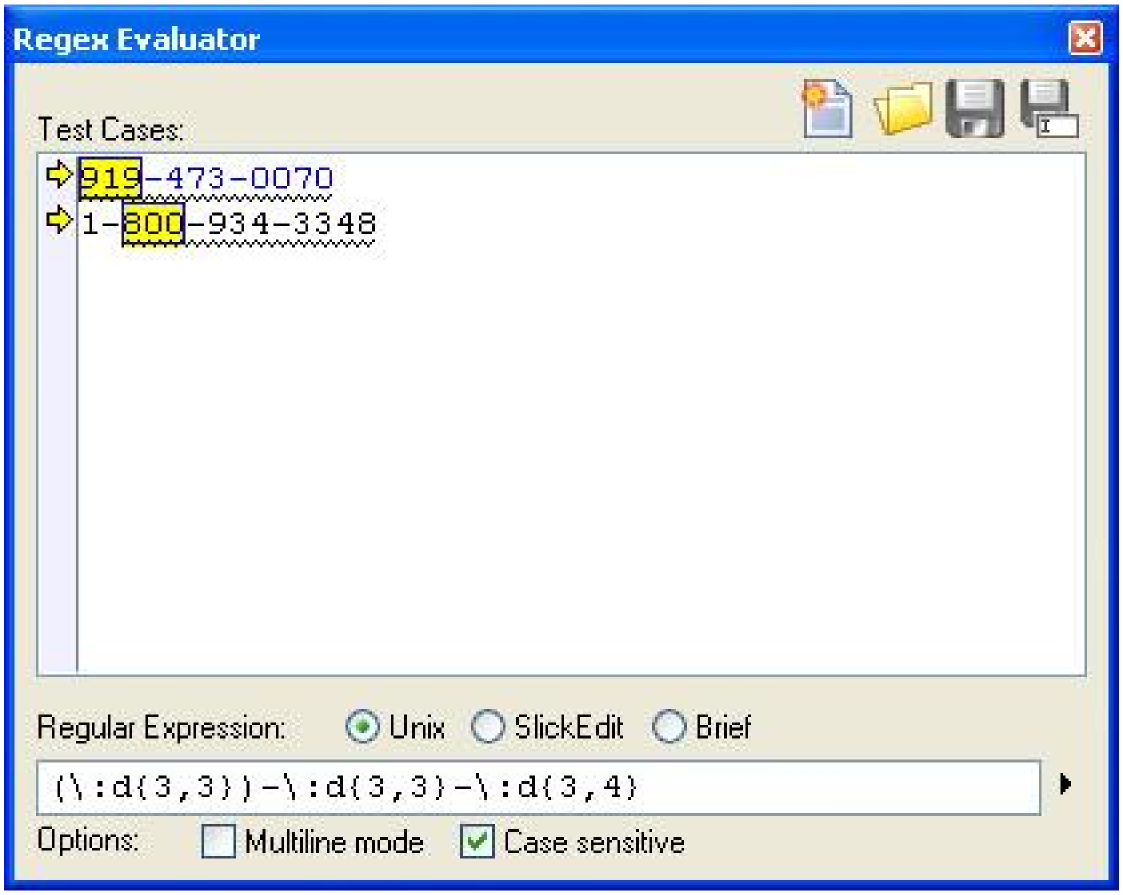
Regular expressions are used to express text patterns for searching. The Regex Evaluator provides the capability to interactively create, save, and re-use tests of regular expressions.

In SlickEdit® Core, the Regex Evaluator is a view. To open it, click **Tools** → **Regex Evaluator**.

Using the Regex Evaluator

Type some samples of the text you are trying to match in the top portion of the view window labeled **Test Cases**. Enter your regular expression pattern in the bottom field. The Regex Evaluator will highlight matched portions of your sample text and identify groups.

Figure 8.7. Regex Evaluator View



```
919-473-0070
1-800-934-3348
```

Regular Expression: [✓ Unix] SlickEdit Brief

```
(\:d{3,3})-\:d{3,3}-\:d{3,4}
```

Options: Multiline mode [✓ Case sensitive]

Entering Test Cases

Type your test cases in the **Test Cases** text box. These test cases will be evaluated as you type your regular expression in the bottom field. A wavy underline will indicate the ranges of text that match the entire expression. Matches are also marked with a yellow arrow that appears in the gutter to the left of the test case. You can hover your mouse on this arrow to see a tooltip which displays the matched expression details. When groups (tagged expressions) are used in your regular expression pattern, the groups will be boxed and highlighted in yellow in the Test Cases section.

Entering a Regular Expression

Enter the regular expression to test in the text field. Use the radio buttons to select the expression syntax that you wish to use: UNIX, SlickEdit®, or Brief. Click the arrow to the right of the regular expression field to pick from a menu of common syntax and operators.

Regex Evaluator Options

The following options and buttons are available on the Regex Evaluator view:

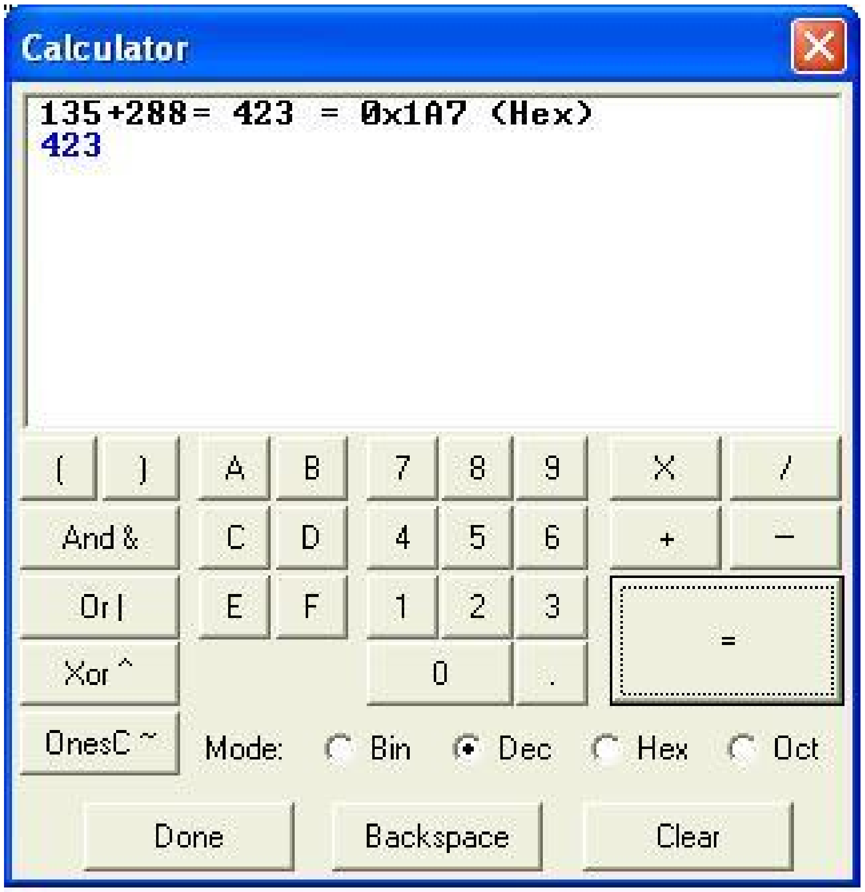
- **Multiline mode** - If **Multiline mode** is selected, rather than searching through the test cases line-by-line, regular expressions will be searched on all lines at once. This is useful for test cases that wrap to the next line. This works just as if you had entered **\om** on the SlickEdit® Core command line.
- **Case sensitive** - If **Case sensitive** is selected, the regular expression search will be case sensitive. This option is on by default.
- **New expression button** - To clear the view window of all entries in order to start a new evaluation, click the button at the top of the view window labeled **New expression**.
- **Open a saved expression button** - To open an expression that you have already saved, click the folder button at the top of the view window labeled **Open a saved expression**.
- **Save the current expression button** - To save the current expression, click the diskette button at the top of the view window labeled **Save the current expression**. Both the expression and the test cases will be saved to a file. The default extension is `.regx`.
- **Save as button** - To save the current expression with a different file name than what has previously been saved, click the button at the top of the view window labeled **Save the current expression as**.

Using the Calculator and Math Commands

The Calculator

To access the calculator, click **Tools** → **Calculator**, or use the **calculator** command.

Figure 8.8. The SlickEdit® Calculator


```
135+288= 423 = 0x1A7 (Hex)
423
```

You can use the calculator in various ways. Type in mathematical expressions from the keyboard or by clicking buttons, including parentheses. Almost all the editing keys including undo, next word, and previous word are supported. The calculator uses a slightly enhanced C expression syntax. The calculator supports specifying binary numbers and allows just an **x** prefix when specifying hexadecimal numbers.

For example, to add the decimal numbers 135 and 288, type **135+288=**. Press the **=** character to evaluate the expression and place the result on the next line. To see the result in a different base, click **Hex**, **Dec**, **Oct**, or **Bin**.

Calculating Expressions with Mixed Bases

To add hex FF with octal 77 with binary 111 with decimal 99, complete the following steps:

1. Click **Hex** then type or click **FF**.
2. Click **+**.
3. Click **Octal**, and type or click **77**.
4. Click **+**.
5. Click **Bin**, and type or click **111**.
6. Click **+**.
7. Click **Dec**, and type or click **99**.
8. Select the output base by clicking one of the base buttons and type or click **=** to compute the result.

Math Commands

Evaluate mathematical expressions by selecting expressions in a buffer and executing the **add** command or by executing one of the math commands on the command line followed by an expression.

These commands support the same expression input. The syntax of the **math** command is:

math *`expression`*

The **math** command evaluates the Slick-C® language expression given and places the results in the message line. You can specify octal numbers by prefixing the number with a zero and specify binary numbers by prefixing the number with the character **b**. If no operator is specified between two unary expressions, addition is assumed. The characters **$** and comma (**,**) are stripped from the expression before it is evaluated. The **mathx**, **matho**, and **mathb** commands evaluate the Slick-C language expression given and places the result in the message line in hexadecimal, octal, and binary respectively. The ***`expression`*** can have the following unary operators:

- ~ bitwise complement
- **-** negation
- + no change

The available binary operators are listed below, from lowest to highest precedence. A comma after the operator indicates that the next operator is of the same precedence.

Table 8.1. Binary Operators

Operator	**Description**
&, **|**	bitwise AND, bitwise OR

Operator	**Description**
^	xor
+, **blank(s)**, **-**	addition, implied addition, subtraction
*****, **/**, **%**	multiplication, division, remainder
******	power

Hexadecimal numbers are prefixed with the characters **0x** or just **x**. Octal numbers are prefixed with the character **O** or digit **0**.

Note

Not all Slick-C language operators are supported.

Math Command Examples

The following table shows some examples of math commands:

Table 8.2. Math Command Examples

Example	**Description**
math 2.5*2	Multiplies 2.5 times 2
math 5/2	Divides 5 by 2
mathx 255	Converts 255 to hexadecimal
math xFF	Converts hexadecimal FF to decimal
math o77	Converts octal 77 to decimal
matho 255	Converts 255 to octal
math 077+0xff+10	Adds octal 77, hex FF, and 10

Overflow/Underflow

If overflow or underflow occurs, the message `Numeric overflow or underflow` is displayed on the message line. Floating point numbers may have up to a 32-digit mantissa and a 9-digit exponent.

Document Math

Type mathematical expressions into a buffer and evaluate them with the **add** command. This feature is called document math. The **add** command adds selected text and inserts the result below the last line of the selection. If no operator exists between two adjacent numbers on the same line, addition is assumed. The result of each adjacent line is added.

Prime Numbers

Prime numbers are often useful for sizing hash tables. The **isprime** command (used from the command line) takes a decimal number as an argument and tells you if it is prime, and if not, its first divisor. The **nextprime** command takes a decimal number as an argument and finds the next greater prime number.

OS File Browser

SlickEdit® Core provides a way to display the operating system’s (OS) file manager/browser. For example, Windows Explorer is displayed on Windows, Konquerer on Linux KDE desktop, etc.

To display the OS file browser, click **Tools** → **OS File Browser**, or use the **explore** or **finder** command (the **finder** command is the same as the **explore** command).

If you are editing a document, the file manager will be rooted in that file's directory, otherwise it will default to the current working directory. Using the **-** option after the command (for example, **explore -**) will ignore any file directory or working directory and go to the system root.

Chapter 9. Macros and Macro Programming

Recorded Macros

There are two types of macros in SlickEdit® Core: macros that you record, described below, and macros that are available for programming (see Programmable Macros).

You can automate repetitive tasks by recording a series of SlickEdit Core operations in a macro. After you create a macro, you can run it, save it, bind it to a key sequence, and/or modify the macro's source code.

Recording a macro generates Slick-C® code for performing the action being recorded. Therefore, recording a macro is also a useful way to discover and implement Slick-C code that controls the behavior of SlickEdit Core. See Using Macros to Discover and Control Options for information.

Recorded Macro Operations

Macros can be recorded, executed, and saved from the **Macro** menu, or you can use commands or predefined key bindings to perform macro operations:

- To start or end macro recording, from the main menu, click **Macro** → **Record Macro** or **Macro** → **Stop Recording Macro**, respectively. Alternately, you can toggle recording on and off with one of the following methods:
  - Click the recording indicator **REC**, located along the bottom edge of the editor. When a macro is being recorded, the recording indicator is active (not dimmed).
  - In CUA emulation, press **Ctrl**+**F11** (the key binding associated with the **record_macro_toggle** command).
  - On the SlickEdit Core command line, type **record_macro_toggle**.

  See Recording a Macro for more information.
- To run the last macro that you recorded, click **Macro** → **Execute last-macro**, press **Ctrl**+**F12**, or use the **record_macro_end_execute** command. See Running a Recorded Macro for more information.
- To display a list of your recorded macros, from which you can edit, run, delete, or bind to a key sequence, click **Macro** → **List Macros**, or use the **list_macros** command.

Note

List Macros only shows your "saved" macros, not your last recorded macro or macros created using **execute_last_macro_key**.

Recording a Macro

To record a macro, simply start the recording, enter the keystrokes you want to record, then end the recording. The instructions below outline the steps.

1. From the main menu, click **Macro** → **Record Macro** (or use one of the toggle methods to start recording, as described under Recorded Macro Operations above).

2. Enter the keystrokes that you want to record. For example, to record a macro of the cursor moving three spaces to the right, press the right arrow key three times. You can also change a configuration option, view settings, or expand a code template during macro recording.

3. When you have finished recording the macro, end recording by clicking **Macro** → **Stop Recording Macro** (or the same toggle you used in Step 1). The Save Macro Dialog is displayed.

Tip

For recorded macros you don't need to track, perhaps for immediate or one-time use, SlickEdit Core provides a way to stop macro recording and instantly bind the macro to a key sequence. This allows you to keep a set of recent, unnamed macro recordings instead of having just one "last recorded macro". See Binding Macros Using execute_last_macro_key for more information.

4. The next step depends on the purpose of your recorded macro. If you want to save the macro for future use, continue with the steps below. If you're just recording it to discover Slick-C® code (see Using Macros to Discover and Control Options), click **Edit** (or press **Alt**+**E**) at this time to view the source code. However, you will not be prompted to save the macro and bind it to a key sequence. In order to do that, you will need to use **Macro** → **Save last-macro** prior to recording a new macro or exiting the editor. See Saving and Editing Recorded Macros for more details.

5. Specify the name for the macro in the **Macro Name** text box.

6. Select the options that you want from the following, or leave the defaults if you aren't sure:

   - **Requires editor control** - Check this box if your macro can only operate if the target is an editor control.

   - **Allow in read only mode** - Check this box if your macro does not modify the current buffer.

   - **Allow when window is iconized** - You will probably NOT want this box checked if your macro modifies the current buffer. Whether to check this box is more a matter of personal taste.

   - **Allow in non-MDI editor control** - Check this box if your macro should be allowed in a non-MDI editor control. This is typical for commands which require an editor control but do not open or close editor windows/buffers.

7. Click **Save**. The List Macros Dialog is displayed, from which you can run the macro, edit the source, delete it, or choose to bind it to a key sequence. If you plan to use the macro often, it's best to go ahead and create a key binding for it now. See Binding Recorded Macros to Keys for more information.

Binding Recorded Macros to Keys

To use recorded macros most effectively, create key bindings for them so they can be executed quickly when you want to use them. Macros can be bound through the Key Bindings dialog (see Binding Macros Using the Key Bindings Dialog), or by using the instant "stop recording and bind" method associated with the **execute_last_macro_key** command (see Binding Macros Using execute_last_macro_key).

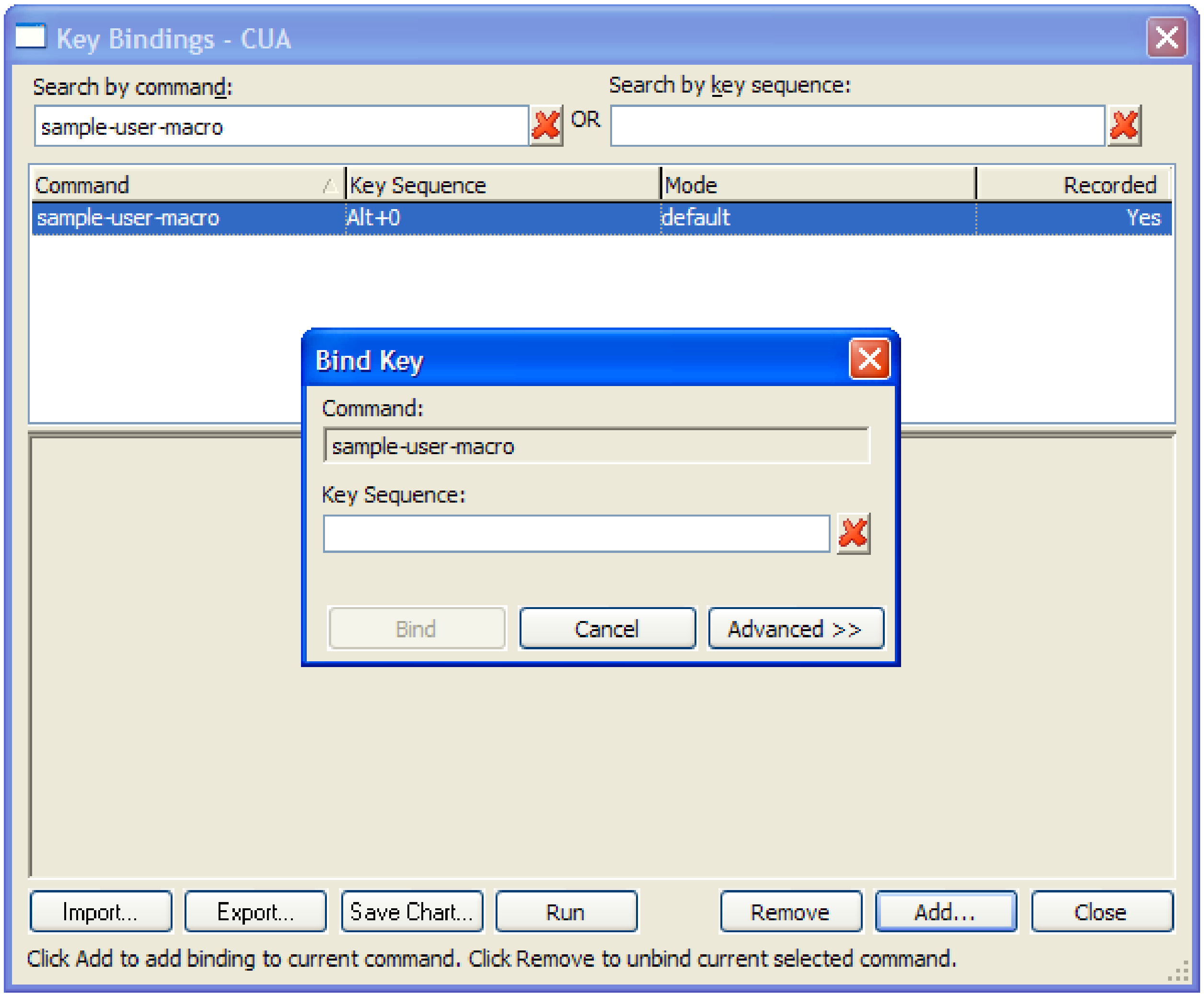
Binding Macros Using the Key Bindings Dialog

After recording a new macro, the List Macros Dialog is automatically displayed. You can access the List Macros dialog any time from the main menu by clicking **Macro** → **List Macros**, or by using the **list_macros** command. Click **Bind to Key** to open the Key Bindings dialog, showing a listing of only your recorded macros.

Note

You can also display the Key Bindings dialog by clicking **Window** → **Preferences** → **SlickEdit** → **General** → **Key Bindings**, or by using the **gui_keybindings** command. However, if you display the dialog in this manner, it will show a list of all commands and user-recorded macros. To view your recorded macros, click on the**Recorded** column header to sort and display items with a "Yes" (which indicates these are recorded macros). A more convenient method is to use the **Bind to Key** button on the List Macros dialog to only show recorded macros in the Key Bindings dialog.

Figure 9.1. Binding Recorded Macros



Search by command: sample-user-macro

Command	Key Sequence	Mode	Recorded
sample-user-macro	Alt+0	default	Yes

Command: sample-user-macro

Click Add to add binding to current command. Click Remove to unbind current selected command.

Creating bindings for recorded macros works the same as creating bindings for SlickEdit Core commands. Click **Add** to initiate the binding, then specify the key sequence or mouse event to use. See Managing Bindings for more information about creating, editing, and removing bindings.

Binding Macros Using execute_last_macro_key

The **execute_last_macro_key** command provides functionality to stop macro recording and instantly bind the macro to a key sequence. This feature is convenient for recorded macros you want to use perhaps immediately or one-time only, and don’t need to track. It allows you to keep a set of recent, unnamed macro recordings instead of having just one "last recorded macro", similar to a feature provided by early text editors that supported macro recording, such as the EVE and Edt editors on the Vax (VMS).

Unlike other SlickEdit Core commands we document, **execute_last_macro_key** is not intended to be used on the command line—instead, you use a key binding that is automatically assigned when you press it to stop macro recording.

To bind a macro to a key sequence using this method, start recording the macro and enter the keystrokes you want to record. Then press **Ctrl**+**Shift**+**F12**,***key*** where *key* stands for keys **0** through **9**, **A**-**Z**, or **F1**-**F12**, to stop recording the macro and instantly bind it to the key sequence you just pressed.

Note

The prefix key sequence **Ctrl**+**Shift**+**F12** works in all emulations except SlickEdit text mode edition. In that emulation, the prefix key sequence is **Ctrl**+**Shift**+**T**.

Each macro that you record and bind using this feature is saved to a new file named `lastmac<key>.e`, located in your configuration directory, where *<key>* matches the *key* you used when creating the binding (keys **0-9**, **A-Z**, or **F1-F12**). These files can be helpful for determining what was recorded, because if you use this method to bind a recorded macro, you will not have an opportunity to name the macro or see a list of macros created with this method (they will not appear in the List Macros or Key Bindings dialogs).

Running a Recorded Macro

If you have saved the macro and created a key binding for it, the easiest way to run it is to simply press the associated key sequence. You can also run it by:

- Typing the name of the macro in the SlickEdit® Core command line then pressing **Enter**.
- Using the List Macros Dialog (**Macro** → **List Macros** or **list_macros** command)—select the macro and click **Run**.

You can run the last macro that you recorded, whether it was saved or not, by clicking **Macro** → **Execute last-macro** (**Ctrl**+**F12** or **execute_last_macro** command).

Saving and Editing Recorded Macros

When a recorded macro is saved, the source code of the macro is appended to the `vusrmacs.e` user macros file located in your configuration directory.

To edit a macro that has previously been recorded and saved, from the main menu, click **Macro** → **List Macros** (or use the **list_macros** command) to display the List Macros Dialog. The list box on the left displays a list of your recorded macros. Select the macro you want to edit, then click **Edit**. The `vusrmacs.e` file opens in the editor. Save the file when you're done making edits.

If you are using recorded macros to discover Slick-C® code (see Using Macros to Discover and Control Options), you can view/edit the source of a macro that you have just recorded but have not yet saved. After creating a new recorded macro, you are prompted with the Save Macro Dialog. Instead of naming the macro and saving it, click **Edit** (or press **Alt**+**E**) to view the source. A new editor window named `lastmac.e`, which is the name of the file that contains the source of the last macro that was recorded, is opened showing the macro's source code. If you make edits, you will need to save the changes by clicking **Macro** → **Save last-macro**. The Save Macro dialog is displayed where you can name the macro and then click **Save**, which then appends the new code to the user macros file (`vusrmacs.e`). To bind the macro to a key, use the Key Bindings dialog, which is not automatically displayed like it is when recording/saving a macro in the normal way (see Binding Macros Using the Key Bindings Dialog).

Each macro recorded and bound using **execute_last_macro_key** is saved in a file named `lastmac<key>.e`, and the corresponding compiled byte code is saved in `lastmac<key>.ex`, where *<key>* matches the *key* you used when creating the binding (keys **0-9**, **A-Z**, or **F1-F12**). Both files are located in your configuration directory. To edit a macro bound using this method, open the `.e` file for the macro you want to edit, make and save the changes, then from the main menu, click **Macro** → **Load Module** (**F12** or **gui_load** command). Find and select the `.e` file you just edited and click **Open**. The message `Module(s) loaded` appears on the message line, and SlickEdit Core will now honor the changes you made to the `.e` file when you use the corresponding key sequence.

Deleting Recorded Macros

To delete a macro that has been recorded and saved, from the main menu, click **Macro** → **List Macros** (or use the **list_macros** command). Select the macro you want to delete, and click **Delete**.

To delete a macro that you recorded and bound to a key sequence using **execute_last_macro_key**, browse to your configuration directory and delete `lastmac<key>.e` and its corresponding `lastmac<key>.ex` file, where <*key*> matches the *key* you used when creating the binding (keys **0-9**, **A-Z**, or **F1-F12**).

Using Macros to Discover and Control Options

Recording macros provides a good starting point for discovering variables in Slick-C® code that control the behavior of SlickEdit® Core.

Since responses to dialog boxes (such as when you select/deselect options) are recorded as Slick-C source, you can use recorded macros to discover and change these variables quickly. For example, perhaps you frequently switch line insert styles. Instead of every time clicking **Window** → **Preferences**, expanding **SlickEdit** and clicking **General** in the tree, then double-clicking the **General** setting and selecting the **More** tab, then selecting the option, you can record those steps as a macro and bind it to a key sequence. Now you have an easy way to toggle a feature on and off.

You can also view the source of a recorded macro without naming or saving it, if you just want to see the code. See Saving and Editing Recorded Macros for more information.

Programmable Macros

Many of the actions performed using SlickEdit® Core are performed using Slick-C® macros. Slick-C functions are mapped to menus, buttons, and keys and perform the action behind an event. Use Slick-C to customize, modify, and bind functions to other shortcuts.

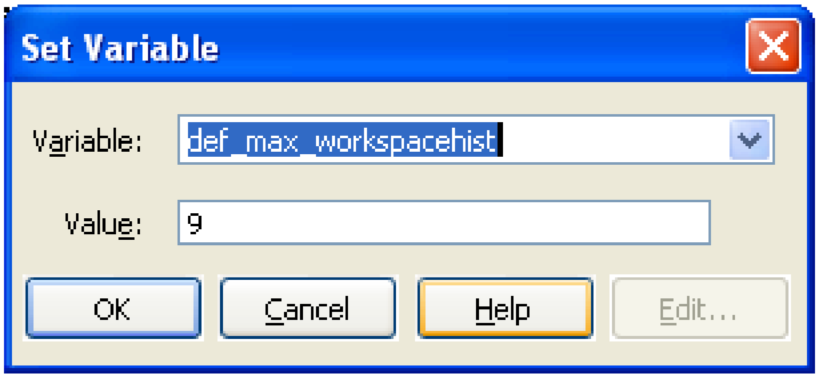
Loading Macros

To load a Slick-C® macro file, from the main menu click **Macro** → **Load Module**, or use the **gui_load** command. The Open dialog box is displayed, prompting you for a file.

Setting Macro Variables

You can set Slick-C® macro variables to specific values using the Set Variable dialog box (**Macro** → **Set Macro Variable** or **gui_set_var** command).

Figure 9.2. Set Variable Dialog



Variable: def_max_workspacehist

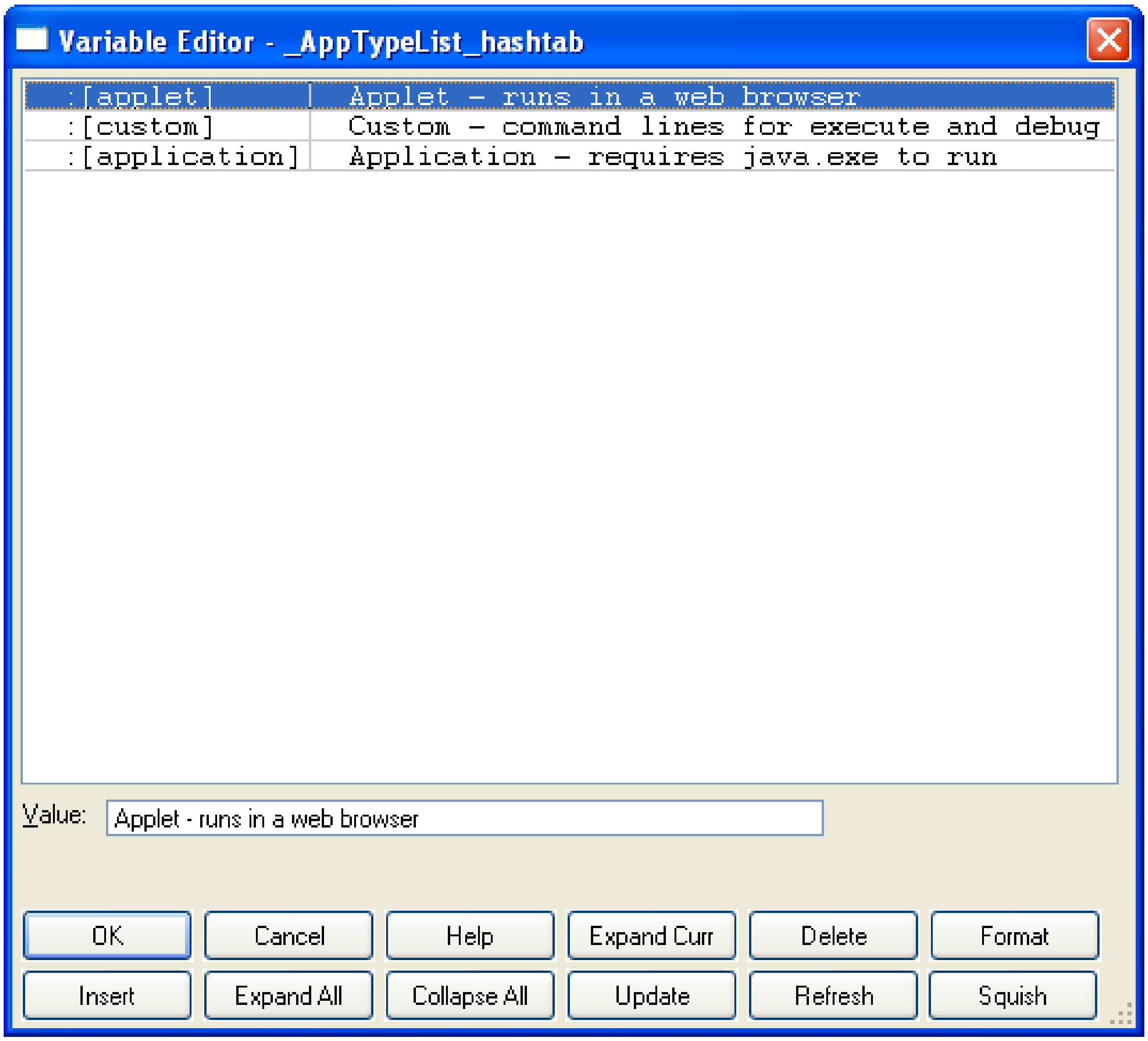
Value: 9

Enter the name of Slick-C global variable in the **Variable** text field. You may use the spacebar and **?** (completion) to assist you in entering the name. Click the drop-down arrow to select a variable from the list.

Enter the new value of the variable in the **Value** text box. Click **Edit** to display the Variable Editor, used for editing complex variables such as arrays, hash tables, structures, and unions.

Currently the Variable Editor does not have enough symbolic information to give you member names of structures or unions. Structures will appear as an array.

Figure 9.3. Variable Editor Dialog


Variable Editor - _AppTypeList_hashtab

```
:[applet]        Applet - runs in a web browser
:[custom]        Custom - command lines for execute and debug
:[application]   Application - requires java.exe to run
```

Value: Applet - runs in a web browser

The data structure of the variable is displayed in the list box at the top of the dialog, and the value for each entry is displayed in the **Value** text box. For a list of all elements on this dialog, see Variable Editor Dialog.

Chapter 10. SlickEdit Core Dialogs

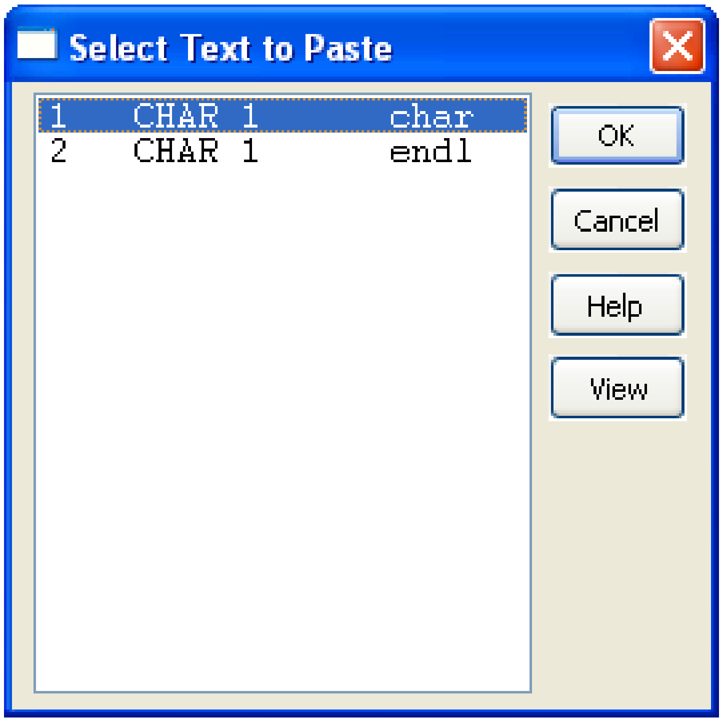
Editing Dialogs

This section describes the SlickEdit® Core dialogs associated with text editing. See Text Editing for more details about editing operations.

Select Text to Paste Dialog

This dialog is used to view and insert recently used clipboards. It is displayed when you press **Ctrl**+**Shift**+**V** (in CUA emulation), click **Edit** → **List Clipboards**, or use the **list_clipboards** command. If there are no clipboards, the message line states `No clipboards`.

Figure 10.1. Select Text to Paste Dialog



Select Text to Paste

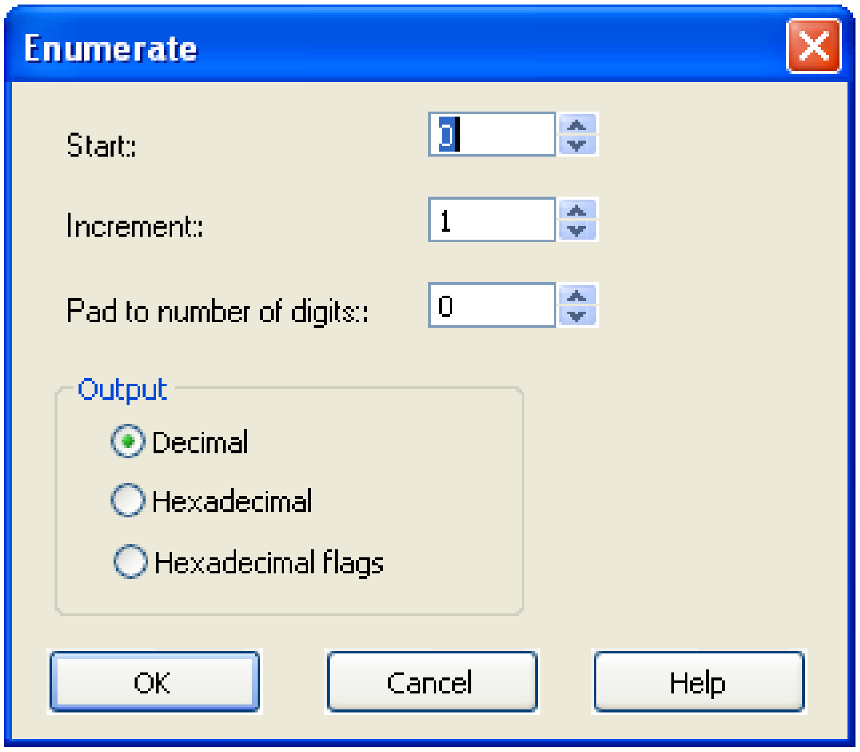
```
1    CHAR 1         char
2    CHAR 1         endl
```

The numbers in the first column of the list box are used to help you move the selection cursor. The second column indicates the clipboard type. The third column shows all or a portion of the clipboard text (depending on the length). Click **OK** to insert the selected clipboard at the cursor location. Click **View** to see the complete text in the View Clipboard window. From here you can copy all or part of the text to the operating system clipboard.

Enumerate Dialog

This dialog contains options for adding incrementing numbers to a selection. It is displayed when you click **Edit** → **Other** → **Enumerate** or use the **gui_enumerate** command. Alternatively, you can add incrementing numbers to a selection using the **enumerate** command with options on the command line. See the Help system for command syntax.

Figure 10.2. Enumerate Dialog



Enumerate

Start:: 0

Increment:: 1

Pad to number of digits:: 0

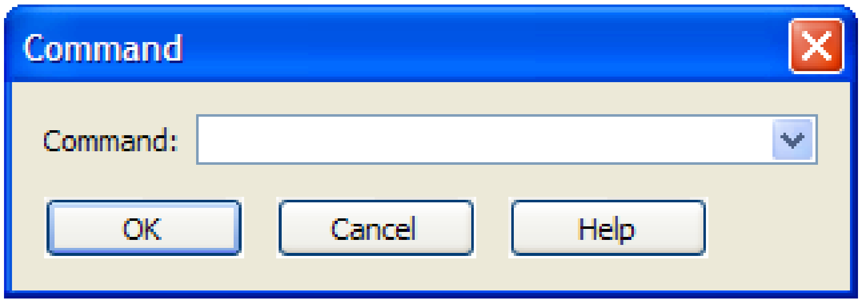
Output: [✓ Decimal] Hexadecimal Hexadecimal flags

- **Start** - C syntax expression which evaluates to the number used for first line of selection. However, when the **Hexadecimal flags** output style is selected, the start must be an integer bit position or the first hexadecimal number with which to start.
- **Increment** - C syntax expression which evaluates to the amount to increment for each line in the selection. However, when the **Hexadecimal flags** output style is selected, this specifies the number of bit positions by which to increment.
- **Pad to number of digits** - Specifies the digit width for each number. Number is padded to at least this number of digits by adding leading zeros.
- **Output** - Both the **Hexadecimal** and **Hexadecimal flags** options specify hexadecimal syntax output based on the buffers extension. We determine the hexadecimal syntax based on the color coding which supports **0x*hhhh*** (C syntax), **&H*dddd*** (Basic), ***hhhh*H** (Intel assembler), and **$*hhhh*** (Motorola assembler). If the buffer's extension has no color coding, the hex numbers are prefixed with **0x**.

Filter Selection: Command Dialog

The Command dialog is used to specify a command to run against the selected text. It is displayed when you click **Edit** → **Other** → **Filter Selection** or use the **filter_selection** command.

Figure 10.3. Filter Selection: Command Dialog



Enter the command in the **Command** text box. The selected text will be used as input to the command, and the output from the command will replace the selected text. Use the drop-down arrow to the right of the **Command** text box to select from a history of previously entered commands.

Search Dialogs

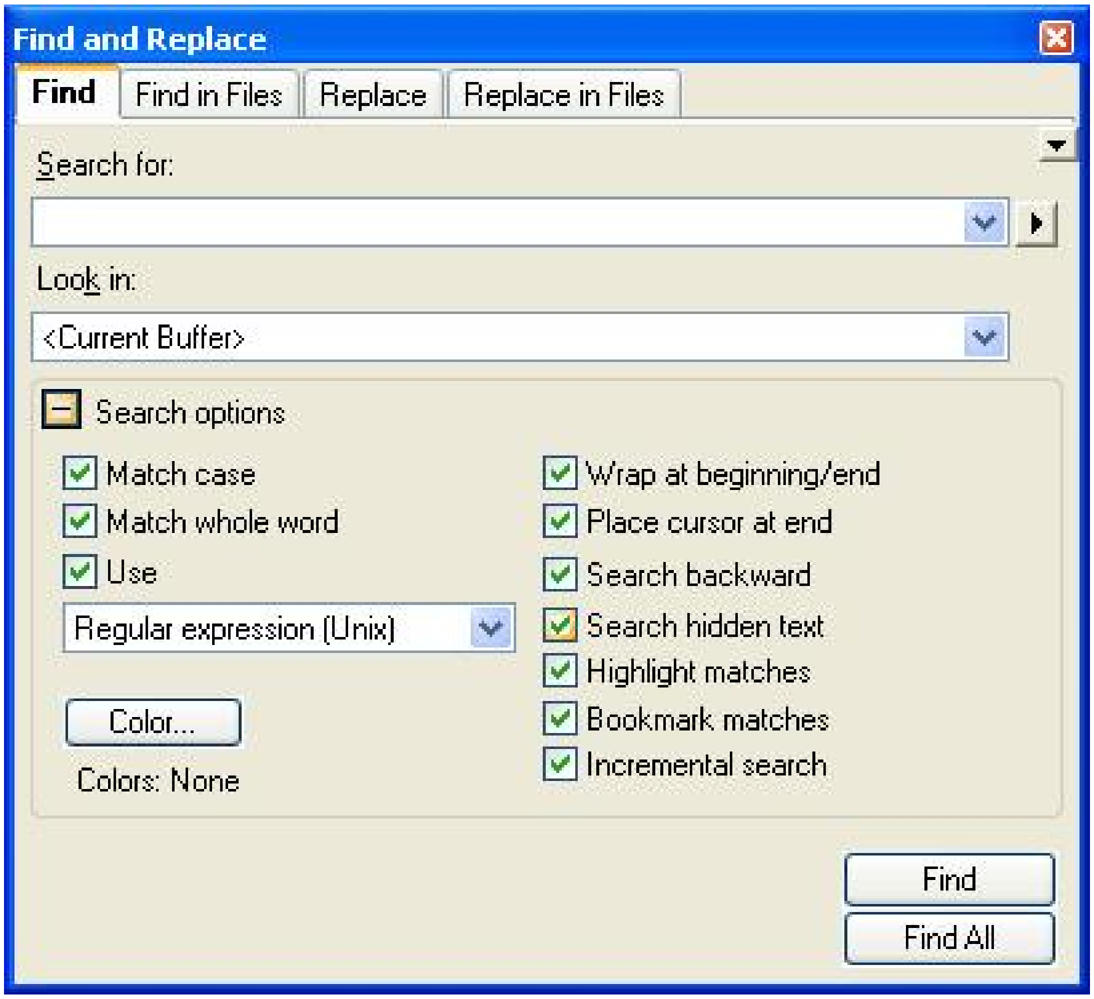
This section describes the SlickEdit® Core dialogs and views associated with searching and replacing. For more information about using search and replace operations, see Find and Replace.

Note that there is an additional dialog not listed here that contains search options—the **Search** tab of the General Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting). See Search Tab for a description of these settings.

Find and Replace View

This view is displayed when you click one of the find or replace items on the **Search** menu. See Find and Replace for information about searching and replacing.

Figure 10.4. Find and Replace View



The Find and Replace view contains a right-click context menu and four tabs:

- Find Tab
- Find in Files Tab
- Replace Tab
- Replace in Files Tab

Find and Replace View: Context Menu

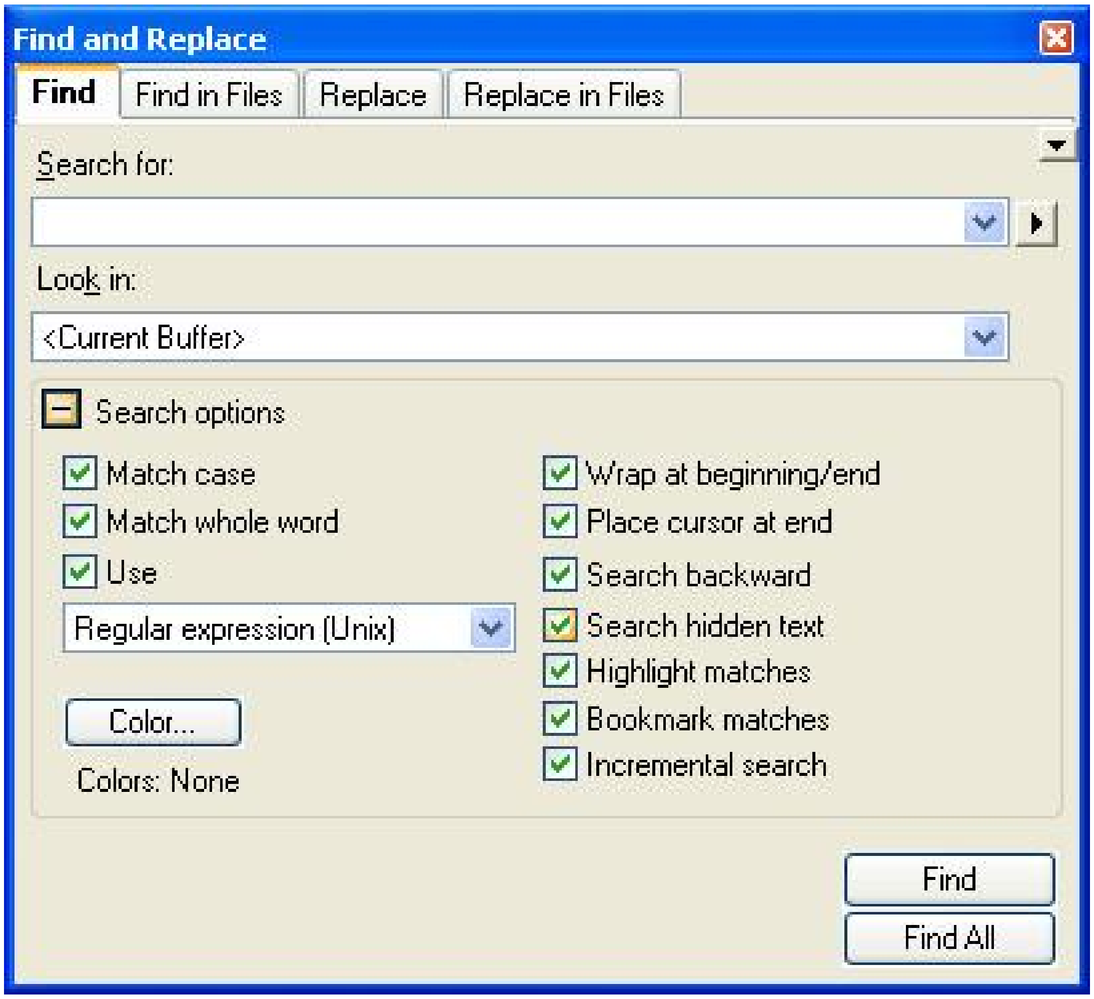
Right-click in the background of the Find and Replace View to access the following items:

- **Saved Search Expressions** - See Saving Search and Replace Values.
- **Configure Options** - Displays the Search Tab of the General Options dialog, from which you can set the default search options that the Find and Replace view should use.
- **Use Default Options** - If selected, the options specified in the Search Tab of the General Options dialog are used instead of the options selected in the Find and Replace view.
- **Clear All Options** - Clears all options that are selected in the Find and Replace view.
- **Set Current Options as Default** - If selected, the options that are selected on the view window replace the settings in the Search Tab of the General Options dialog.
- **Hide/Show Tabs** - Toggles the display of the tabs on the Find and Replace view.
- **Clear Highlights** - Removes all highlighting from text that was highlighted during a search or replace operation.
- **Allow Docking** - If selected, the Find and Replace view can be docked.

Find Tab

This tab on the Find and Replace View provides fields and options for searching and finding text.

Figure 10.5. Find and Replace: Find Tab



- **Search for** - Enter the string you want to search for here. You can retrieve previous search strings by clicking the drop-down list button. Strings may be text or regular expressions and can include wildcards. Note that ISPF search expressions cannot be used here.

  Click the right-pointing arrow button to the right of the **Search for** field to display a menu containing specific search syntax options such as **Character in Range**, **Beginning of Line**, and **Decimal Digit**.

- **Look in** - This field allows you to specify a range for your search to the current selection, current procedure, current buffer or all buffers.

- **Search options** - Click this button to expand or contract the search options section of the view window. When contracted, the options that are selected are summarized in this area.

- **Match case** - If selected, a case-sensitive search is performed.

- **Match whole word** - If selected, a word search is performed. Before a search is considered successful, the characters to the left and right of the occurrence of the search string found are checked to be non-word characters.

  The default word characters are [A-Za-z0-9_$] and can be changed. To change these, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the Advanced Tab, and enter your desired characters in the **Word chars** field.

- **Use** - Set this option to select one of the following types of search syntax from the drop-down list:
  - **Regular expression (UNIX)**
  - **Regular expression (Brief)**
  - **Regular expression (SlickEdit®)**
  - **Wildcards (*,?)**

  See Find and Replace with Regular Expressions for more information.

- **Color** - Displays the Color Coding Search Options dialog. This dialog lets you pick various syntactic elements to filter a search. These are the same elements used by the Color Coding engine. Using these filters helps to reduce the number of false positives you find in a search. Each check box has three states:
  - **Neutral (the default)** - All check boxes start in the neutral state. These elements will be used in a search until deselected or until one or more other elements are selected. Putting a check in any check box essentially deselects all non-checked boxes.
  - **Selected** - If the check box is selected, the search will be restricted to this element and any other selected elements. There is no need to deselect any other elements if any elements are selected. If any elements are selected, only selected elements will be searched. For example, to search for the word "result" only in comments, put a check only in the **Comment** check box. All other syntactic elements will be ignored as part of this search.
  - **Deselected** - If the check box is clear, these elements will not be searched. For example, if you want to find the word "result" anywhere in your code except for in comments, clear the **Comment** check box.

  Click the **Reset** button to mark all items as neutral.

  ### Note

  Not all languages have all color coding elements defined. For example, dBase and Pascal do not have preprocessing. Only C++ and Java have function color defined. Only HTML has attributes (i.e. <img src=.>).

- **Wrap at beginning/end** - If selected, the search will always be performed on the entire buffer, starting from the cursor.
- **Place cursor at end** - If selected, the cursor is placed at the end of the occurrence found.
- **Search backward** - Select this option to have the search performed from the end to the beginning.

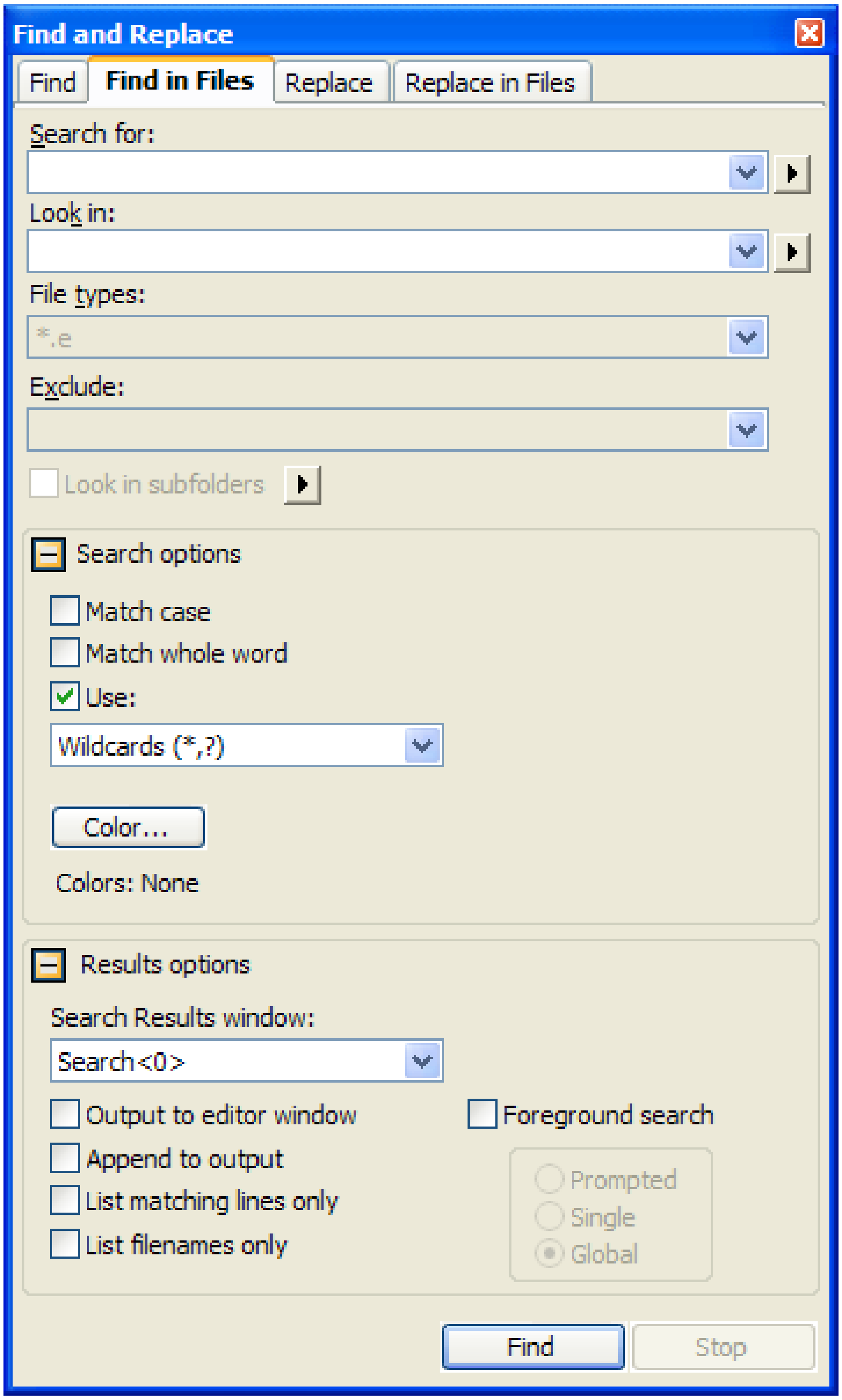
- **Search hidden text** - Select this option to search for text hidden by Selective Display. Matches found that were set to be hidden by Selective Display will be revealed. To set Selective Display options, from the main menu click **View** → **Selective Display**. See Selective Display for more information.
- **Highlight matches** - Select this option to highlight all matched patterns in the current search range. Highlight colors for these matches are customizable. To set this color, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting. Select **Highlight** from the **Screen element** list. Choose your desired color settings and click **OK**. See Colors for more information.

  To clear all highlighted text in all buffers, deselect the **Highlight matches** option or simply close the Find and Replace view.
- **Bookmark matches** - Select this option to bookmark lines with matching patterns and display the Bookmarks view when a match is bookmarked.
- **Incremental search** - Select this option to search incrementally on patterns being typed into the **Search for** field, showing the location of the match at the cursor. See Incremental Searching for more information on this method of searching.
- **Find button** - Click this button when you have entered all desired search options and are ready to initiate a search. If no matches are found, the **Search for** field will turn red, and the text `String not found` will be displayed in the status area of the editor.
- **Find All button** - Click this button to mark all matches in the current search range which have any of the following options selected: **Search hidden text**, **Highlight matches**, and **Bookmark matches**. If no matches are found, the **Search for** field will turn red, and the text `String not found` will be displayed in the status area of the editor.

Find in Files Tab

This tab on the Find and Replace View provides the same functionality as the Find Tab, with the added ability to conduct multi-file searches. Additional options are described below.

Figure 10.6. Find and Replace: Find in Files Tab



- **Look in** - This field allows you to specify a range for your search to the current selection, current procedure, current buffer or all buffers.

Click the right-pointing arrow button to the right of the **Look in** field to display a menu containing more specific range options such as **Directory**, **Project**, and **All Buffers**. From this sub-menu, you may also select **Append** and choose an item for which to have the search results appended.

- **File types** - Specifies one or more file types (extensions) to search for. Type in this field or use the drop-down list to select the extensions desired. When a file title is specified in the **Look in** field, the file types wildcards are ignored.
- **Exclude** - Paths, files, or file types can be excluded from a multi-file search by specifying them with wildcards or full path names. No files are searched in a path that is excluded, including any files in subdirectories beneath.
- **Look in subfolders** - Select this option to expand the search to sub-directories of the folder specified in the **Look in** field.
- **Results options** - Click this button to expand or contract the **Results** options section of the view window. When contracted, the options that are set are summarized in this area.
- **Search Results Window** - This field allows you to send the search results to a specific SlickEdit Core Search view. The window to be used can be selected from the drop-down list, and these are labeled starting at **Search<0>**. A new results window can be added with the **<New>** option up to a pre-set limit of open SlickEdit Core Search views. If **<Auto Increment>** is selected, the search results will cycle through all of the open Search Results tabs in the SlickEdit Core Search view with each new search. See Search Results Output for more information.

  Right-click in the SlickEdit Core Search view to access the following options:

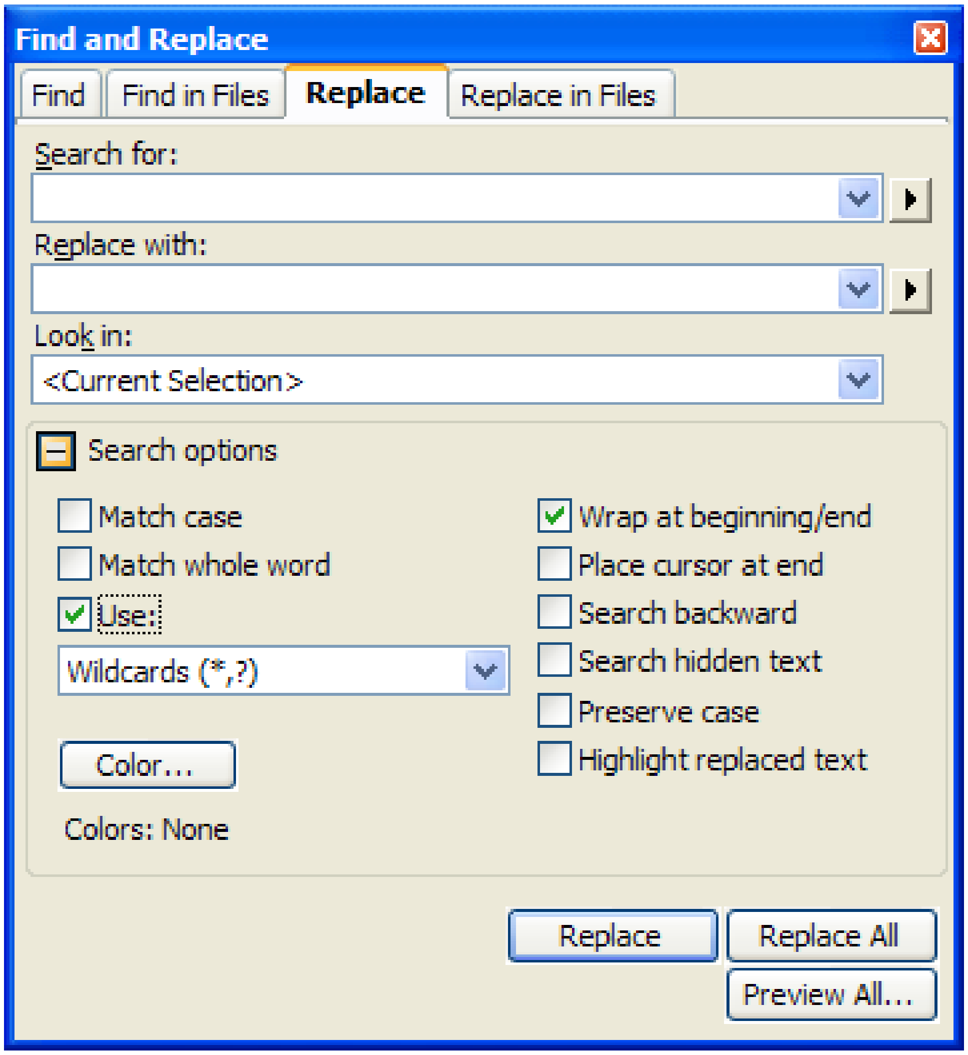
  - **Quick Search** - Finds the next occurrence of the text selected.
  - **Filter Search Results** - Select this option to display the Filter Search Results dialog. From here, if a match is found, you can choose to keep or delete lines with additional searches, match case, limit to current default regular expression syntax and/or remove matches found on the same line number in the same file (this can also be accomplished by selecting **List matching lines** only from the **Find in Files** tab).
  - **Open as Editor window** - Opens current search results in a new editor window.
  - **Go to Line** - Goes to the file/line number of the current line in the SlickEdit Search view.
  - **Bookmark Line** - Places a bookmark at the line in the file where the result was found.
  - **Clear Window** - Clears all results in the current SlickEdit Core Search view.
  - **Align Columns** - Aligns the line numbers and column numbers for all search results.
  - **Collapse All** - Collapses all Selective Display levels. See Selective Display for more information.
  - **Expand All** - Expands all Selective Display levels. See Selective Display for more information.
- **Output to editor window** - If selected, search results are sent to an editor window.

- **Append to output** - Select this option to append search results to the search results window that is in focus.
- **List filenames only** - If selected, only file names and not occurrences are listed in the search output.
- **List matching lines only** - Selecting this option will display only one line in the search results window for each line containing one or more matching patterns on the same line, and will highlight all matching patterns.
- **Foreground search** - If selected, activates the three range options listed below. This option offers slightly better performance than a background search, but prevents you from continuing to work while the search is being performed. The default search for SlickEdit® Core is background searching unless this option is selected.
  - **Prompted** - When this option is selected, you are prompted whether to continue searching when an occurrence is found.
  - **Single** - When this option is selected, your cursor is placed on the first occurrence found, but the remaining files are not searched.
  - **Global** - When this option is selected, all files are searched for occurrences without prompting.
- **Stop button** - Click **Stop** to terminate a multi-file, background search. Press **Esc** to terminate a long foreground search.

Replace Tab

This tab on the Find and Replace View provides options for searching and replacing text. The same search options from the Find Tab are provided, as well as the additional replace options described below.

Figure 10.7. Find and Replace Replace Tab



- **Replace with** - Enter the text or regular expression for which to replace the item that is searched. You can retrieve previous replacement text or regular expressions by clicking the drop-down list button.

  Click the right-pointing arrow button to the right of the **Replace with** field to display a menu containing tagged expressions. See Using Tagged Search Expressions for more information.

- **Preserve case** - Select this option to perform a case-sensitive search and replace operation.
- **Highlight replaced text** - Select this option to highlight all instances of the text that was replaced.
- **Replace button** - Click to replace the first instance of the item.
- **Replace All button** - Click to replace every instance of the item.
- **Preview All button** - Click to show a side-by-side comparison of the original file and the file with replacements made. This lets you see the changes and confirm them before committing the changes to the file.

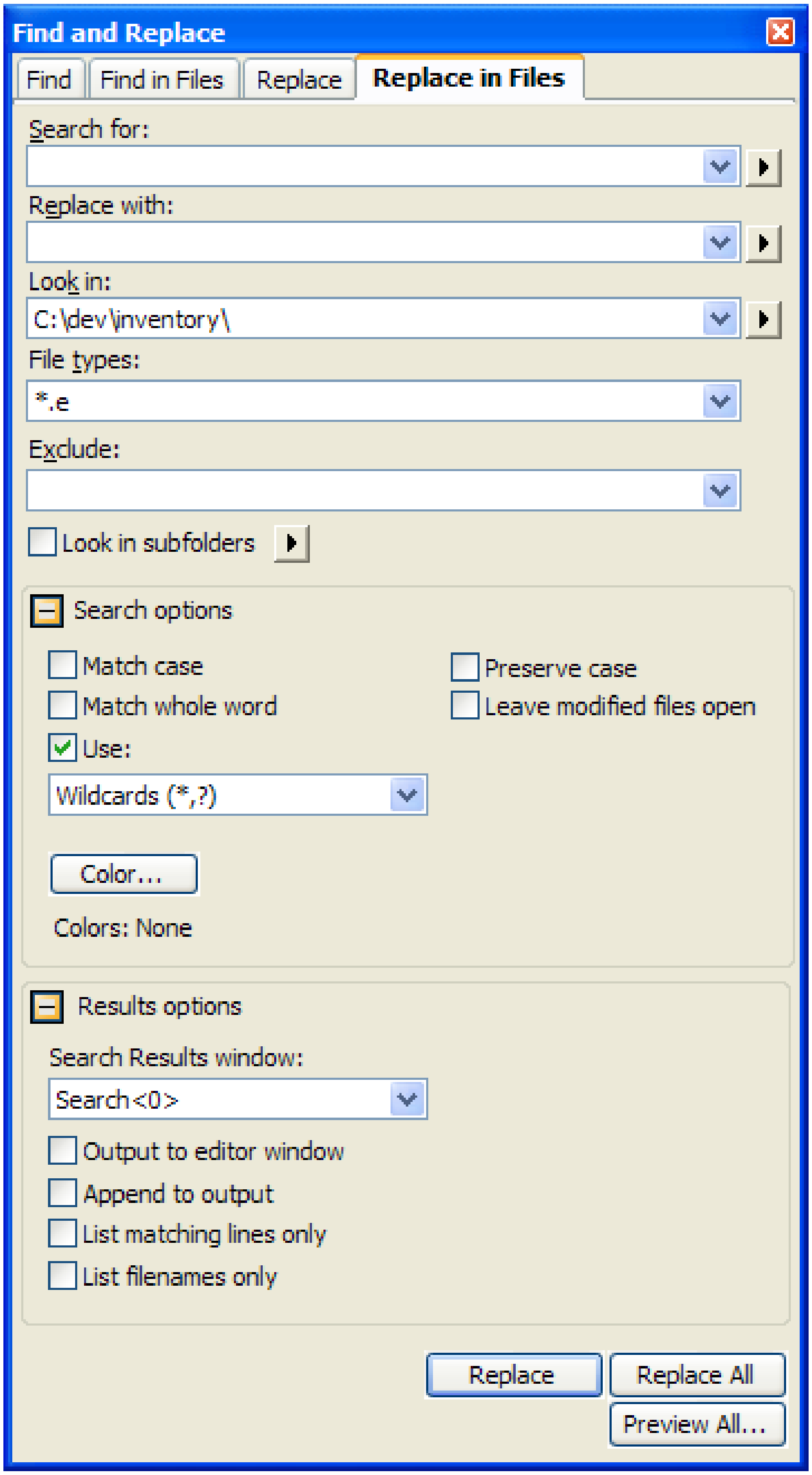
Tip

You can use the menu items **Edit** → **Undo** and **Edit** → **Redo** to undo/redo replacements.

Replace in Files Tab

This tab on the Find and Replace View provides the same functionality as the Replace Tab, with the added ability to conduct multi-file replacements. It contains one additional option, described below.

Figure 10.8. Find and Replace: Replace in Files Tab



Search for:

Replace with:

Look in: C:\dev\inventory\

File types: *.e

Exclude:

☐ Look in subfolders

☐ Match case
☐ Preserve case
☐ Match whole word
☐ Leave modified files open
☑ Use: Wildcards (*,?)

Colors: None

Search Results window: Search<0>

☐ Output to editor window
☐ Append to output
☐ List matching lines only
☐ List filenames only

- **Leave modified files open** - Select this option to open all of the files on which a replace has been performed.

The **Results options** are the same as those on the Find in Files Tab.

Tip

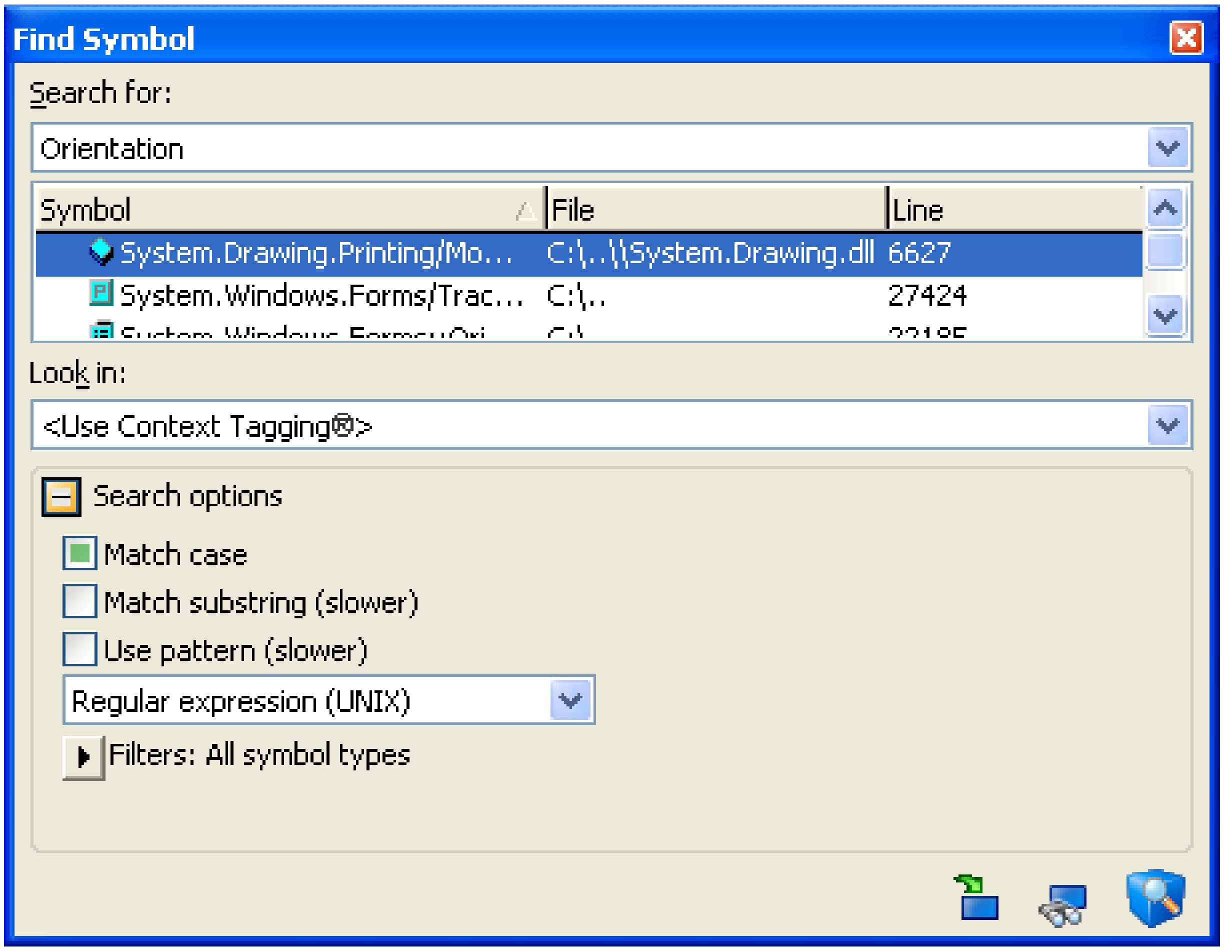
You can use the menu items **Edit** → **Multi-File Undo** and **Edit** → **Multi-File Redo** to undo/redo replacements in multiple files.

Find Symbol View

The Find Symbol view is used to locate symbols in your code. It allows you to search for symbols by name using either a regular expression, substring, or fast prefix match. To open this view, click **Search** → **Find Symbol**.

See Find Symbol View under the Symbol Browsing topic for more information.

Figure 10.9. Find Symbol View



Find Symbol

Search for:

Orientation

Symbol	File	Line
System.Drawing.Printing/Mo...	C:\..\System.Drawing.dll	6627
System.Windows.Forms/Trac...	C:\..	27424

Look in:

<Use Context Tagging®>

Search options

- [✓] Match case
- [ ] Match substring (slower)
- [ ] Use pattern (slower)

Regular expression (UNIX)

Filters: All symbol types

- **Search for** - Enter the name of the symbol to find. If you select the option **Use pattern**, you can enter regular expressions or wildcards in the search field. If you specify **<Use Context Tagging®>** for the **Look in** field, then you can enter language-specific expressions, such as "this->get" to find getters in your current class. SlickEdit® Core displays a progress bar at the top of this view window while a search is in progress.

  Incremental matches are displayed with each character you type, and the first element in the list is selected. Press **Tab** to put focus into the list of matches. Press **Enter** to navigate to the first match. Press **Down** to select the next match. Press **Escape** to stop the search.

- **Symbol List** - The list of search results are refreshed as you type the search string. They include the symbol name, the file that contains it, and the line number. You can sort by any of the three columns.

  The selected match is highlighted and is displayed in the Preview view. Single-click or use the arrow keys to select a match. Double-click or press **Enter** to navigate to that match.

- **Look in** - Use this control to specify the scope of the symbol search. The options are:
  - **<Use Context Tagging®>** - This is the default setting. It uses Context Tagging to intelligently determine which tag files to search.
  - **<Current File>** - Select this setting to only search the tags in the current file, including local variables

in the current function scope.

- **<Current Project>** - Select this setting to only search in files that are in the current project.
- **<Current Workspace>** - Select this setting to only search in files that are in the current workspace.
- **<*Extension* Tag Files>** - Select this setting to search all extension-specific tag files for the indicated extension. This may also include your workspace tag file.
- **Specific tag files** - Select one of the specific tag files listed to limit search to that file.
- **<All Tag Files>** - Select this setting to search all tag files for all languages.

- **Search Options** - The search options can be expanded or collapsed to save space.
  - **Match case** - When selected, SlickEdit Core uses a case-sensitive search to find symbol matches. When this option is not selected, SlickEdit Core uses a case-insensitive search. When this option is in the neutral (mixed) state, SlickEdit Core first searches for case-sensitive matches, and if none are found, attempts to perform a case-insensitive search. Note that for case-insensitive languages, this may have no effect.
  - **Match substring (slower)** - When selected, SlickEdit Core searches for the specified string within the available symbols. For example, finding all symbols containing the word "order," not just those that begin with "order." Selecting this option causes the search to execute more slowly.
  - **Use pattern (slower)** - When selected, SlickEdit Core interprets the search string as a regular expression or wildcard expression. This can result in slower search times, since SlickEdit Coremust test every symbol in the tag file against the regular expression.
  - **Filters** - Use filters to restrict the search to certain types of symbols. The filters are the same the ones available on the Outline view. See Outline View for more information.
- **Buttons** - The following buttons are located at the bottom of the view window:
  - **Go to definition** - Navigates to the definition of this symbol in the editor window. If the programming language allows for separate declaration and definition, you can control which is selected by using the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting). Select the appropriate language from the **Extension** drop-down list, then select the Context Tagging Tab. Select either **Go to Definition navigates to symbol definition (proc)** or **Go to Definition navigates to symbol declaration (proto)**. See Code Navigation for more information.
  - **Go to reference** - Displays a list of references for the selected symbol in the References View and, optionally, navigates to the first reference. Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Context Tagging® Options** setting. Check the option **Go to Reference only lists references** if you just want to build the list of references. See Code Navigation for more information.
  - **Show in symbol browser** - Displays the selected symbol in the Symbols View. Note that this feature does not work for local variables or symbols from the current file that are not in a tag file.

- **Manage tag files** - Displays the Context Tagging - Tag Files Dialog, which can be used to update your tag files.

Go to Definition Dialog

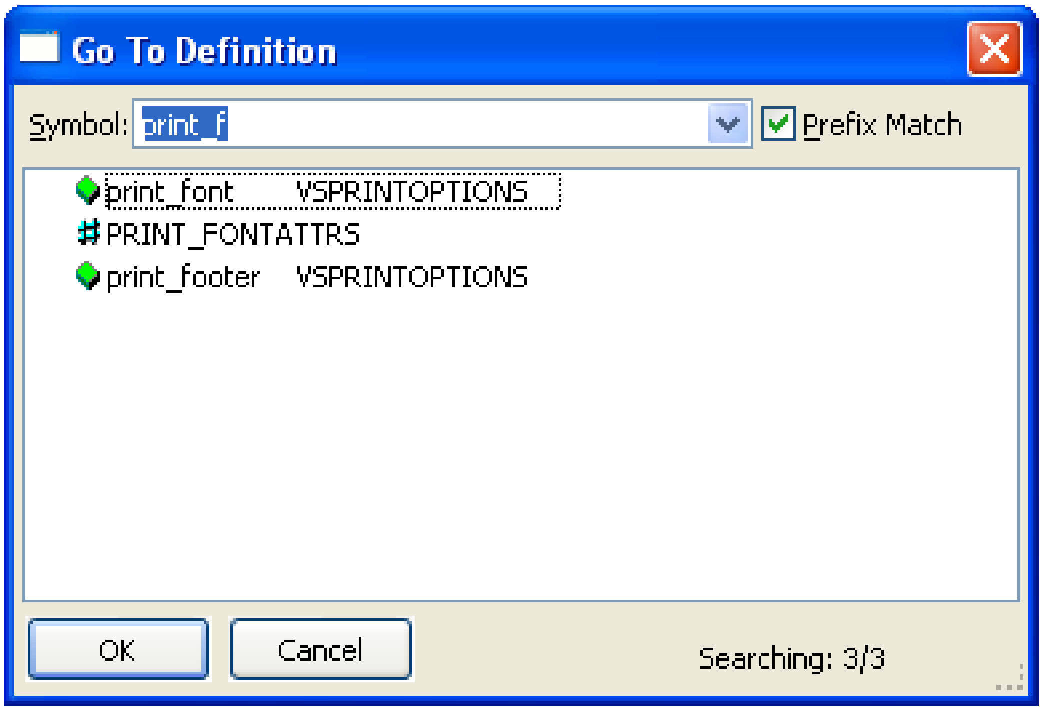
The Go to Definition dialog (**gui_find_proc** command) can be used to navigate to symbols. It lists all tags that match the prefix you have typed so far. To display the dialog, use the **gui_find_proc** command.

Tip

This dialog has been deprecated in favor of the Find Symbol View.

For more information about navigating between symbols, see Code Navigation.

Figure 10.10. Go to Definition Dialog



Symbol: print_f
[✓] Prefix Match

```
print_font       VSPRINTOPTIONS
PRINT_FONTATTRS
print_footer     VSPRINTOPTIONS
```

Searching: 3/3

- **Symbol** - Specifies the symbol to search for.
- **Prefix Match** - Deselect to match tags using a regular expression or a substring search.

Dialogs Related to Viewing and Displaying

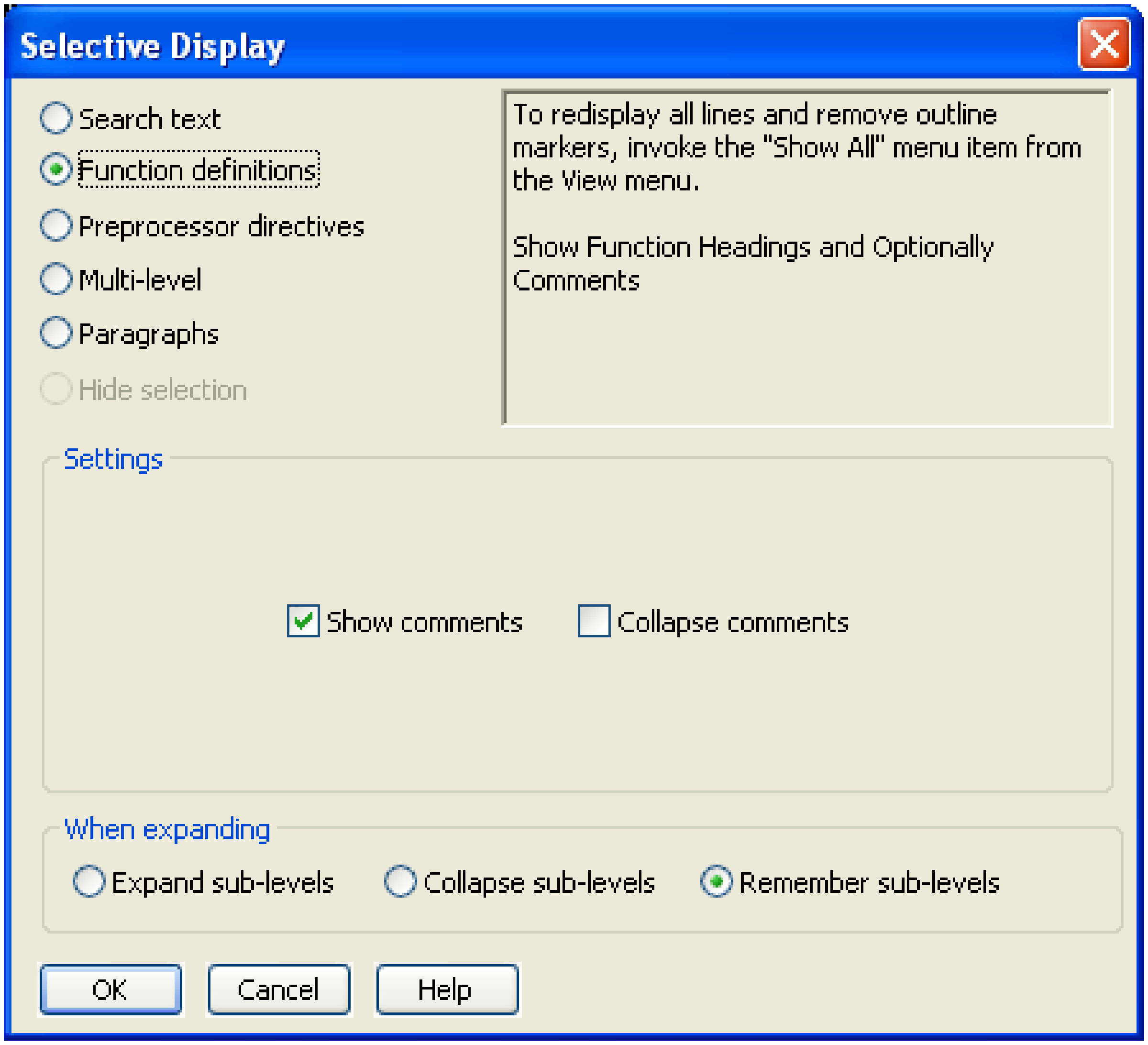
This section describes SlickEdit® Core dialogs and views related to viewing and displaying within the editor. For more information, see Viewing and Displaying.

Selective Display Dialog

The Selective Display dialog (**Display** → **Selective Display** or **selective_display** command) allows you to activate Selective Display and choose the regions in your code that you want to display or hide. Each region contains settings that are specific to that region. The dialog also contains static options for expanding.

See Selective Display for more information about working with this feature.

Figure 10.11. Selective Display Dialog



To redisplay all lines and remove outline markers, invoke the "Show All" menu item from the View menu.

Show Function Headings and Optionally Comments

Show comments [✓]
Collapse comments [ ]

Expand sub-levels Collapse sub-levels [✓ Remember sub-levels]

Search Text

Select **Search text** to specify a search string and display lines containing the search string specified or lines not containing the search string specified. Click the right-pointing arrow button to the right of the field to display a menu containing specific search syntax options such as **Character in Range**, **Beginning of Line**, and **Decimal Digit**. The following settings are available:

- **Match case** - When checked, a case sensitive search is performed.
- **Match whole word** - When checked, a word search is performed. Before a search is considered successful, the characters to the left and right of the occurrence of the search string found are checked to be non-word characters. The default word characters are [A-Za-z0-9_$] and may be changed by the Extension Options dialog box (from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting and select the Advanced Tab).
- **Regular expression** - When checked, a regular expression search is performed. See Find and Replace with Regular Expressions for more information.
- **Reset selective display** - When checked, all lines are made visible and **Plus** and/or **Minus** bitmaps are removed before a search is performed.
- **Hide matched lines** - When checked, lines containing the search pattern are hidden.

Function Definitions

Select **Function definitions** to display only function headings and optional function heading comments. The following settings affect how comments before function definitions are handled:

- **Show comments** - When checked, comments above function definitions are displayed as if they were part of the function definition.
- **Collapse comments** - When checked, comments above function definitions are visible but multi-line comments will require that you expand them to see all comments.

When both check boxes are off, comments will not be visible at all, making it difficult to copy or move functions and comments.

Preprocessor Directives

Select **Preprocessor directives** to display a source file as if it were preprocessed according to the define values you specify. If you do not remember your defines, use the **Scan for Defines** button. The following settings are available:

- **Defines** - Specifies defines and optional values used when you select the **Preprocessor Directives** option on the Selective Display dialog box. The syntax is:

  `name1`**[=*****`value1`*****]** ***`name2`*****[=*****`value2`*****]**

  For example:

WIN32S VERSION=4

- **Warning if Not Defined** - If on when you preprocess your source, a message box is displayed for each define found in an expression which does not have a value.
- **Scan for Defines** - Searches for define variables in the current source file and lets you specify values. Resulting values are placed in the **Defines** combo box.

Multi-Level

Select **Multi-level** to set multiple levels of selective display based on braces or indent. The following settings are available:

- **Braces** - When on, multiple levels of selective display are set to correspond to curly brace nesting levels.
- **Indentation** - When on, multiple levels of selective display are set to correspond to indentation levels.
- **Limit levels** - When too many nested levels of selective display get confusing, place a limit on the maximum number of nested levels. Nesting deeper than this specified level is ignored.

Paragraphs

Select **Paragraphs** to display the first line of each paragraph. A paragraph is defined by a group of lines followed by one or more blank lines.

Hide Selection

Select **Hide selection** to hide the lines in the current selection.

Expansion Options

The following expansion options can be applied for each region:

- **Expand sub-levels** - When on, expanding hidden lines expands all nested hidden lines.
- **Collapse sub-levels** - When on, expanding hidden lines collapses all nesting hidden lines.
- **Remember sub-levels** - When on, expanding hidden lines displays nested hidden lines the way they were last displayed.

Macro Dialogs

This section describes SlickEdit® Core dialogs related to macros. For more information about working with macros, see Recorded Macros, Programmable Macros, and the *Slick-C® Macro Programming Guide*.

Save Macro Dialog

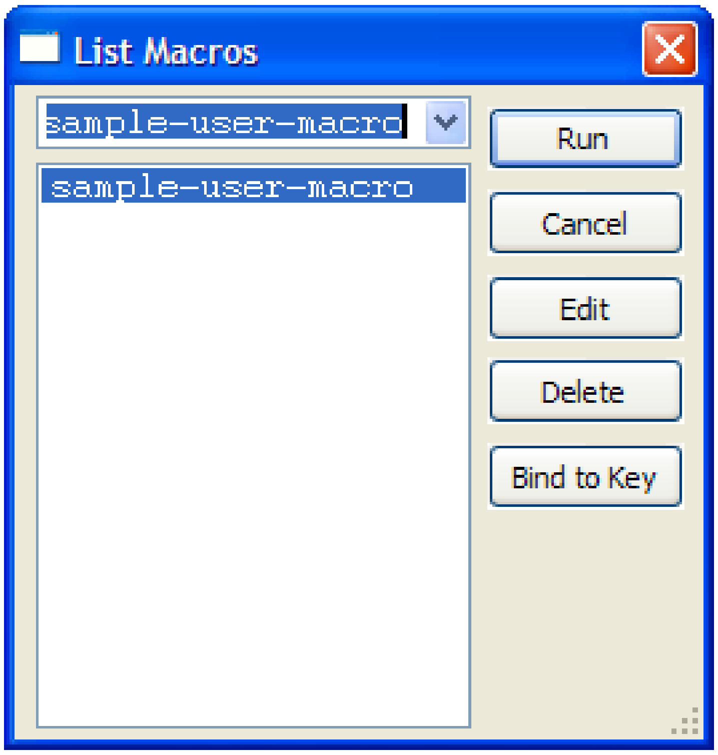
The Save Macro dialog appears when you end macro recording, or when you click **Macro** → **Save last-macro**. You can also display the dialog by using the **gui_save_macro** command. The following options are available:

- **Macro Name** - Specifies the name for the recorded macro.
- **Requires editor control** - Select this option if your macro can only operate if the target is an editor control.
- **Allow in read only mode** - Select this option if your macro does not modify the current buffer.
- **Allow when window is iconized** - You will probably NOT want this option selected if your macro modifies the current buffer. Whether to select this option is more a matter of personal taste.
- **Allow in non-MDI editor control** - Select this option if your macro should be allowed in a non-MDI editor control. This is typical for commands which require an editor control but do not open or close editor windows/buffers.
- **Save** - Saves the recorded macro and displays the Key Bindings dialog so you can bind the macro to a key sequence. See Binding Recorded Macros to Keys for more information.
- **Edit** - (**Alt**+**E**) Displays the macro source code in a new editor window. To save it, click **Macro** → **Save last-macro**. The Key Bindings dialog will not appear automatically if you use this save operation. Instead, to bind the macro to a key, use the menu item **Macro** → **List Macros**. The **Edit** button is not available for saved macros. See Saving and Editing Recorded Macros for more information.
- **Delete** - Deletes the recorded macro.

List Macros Dialog

The List Macros dialog is used to view and work with a list of macros you have recorded. It is accessed by clicking **Macro** → **List Macros** on the main menu, or by using the **list_macros** command on the SlickEdit® Core command line.

Figure 10.12. List Macros Dialog



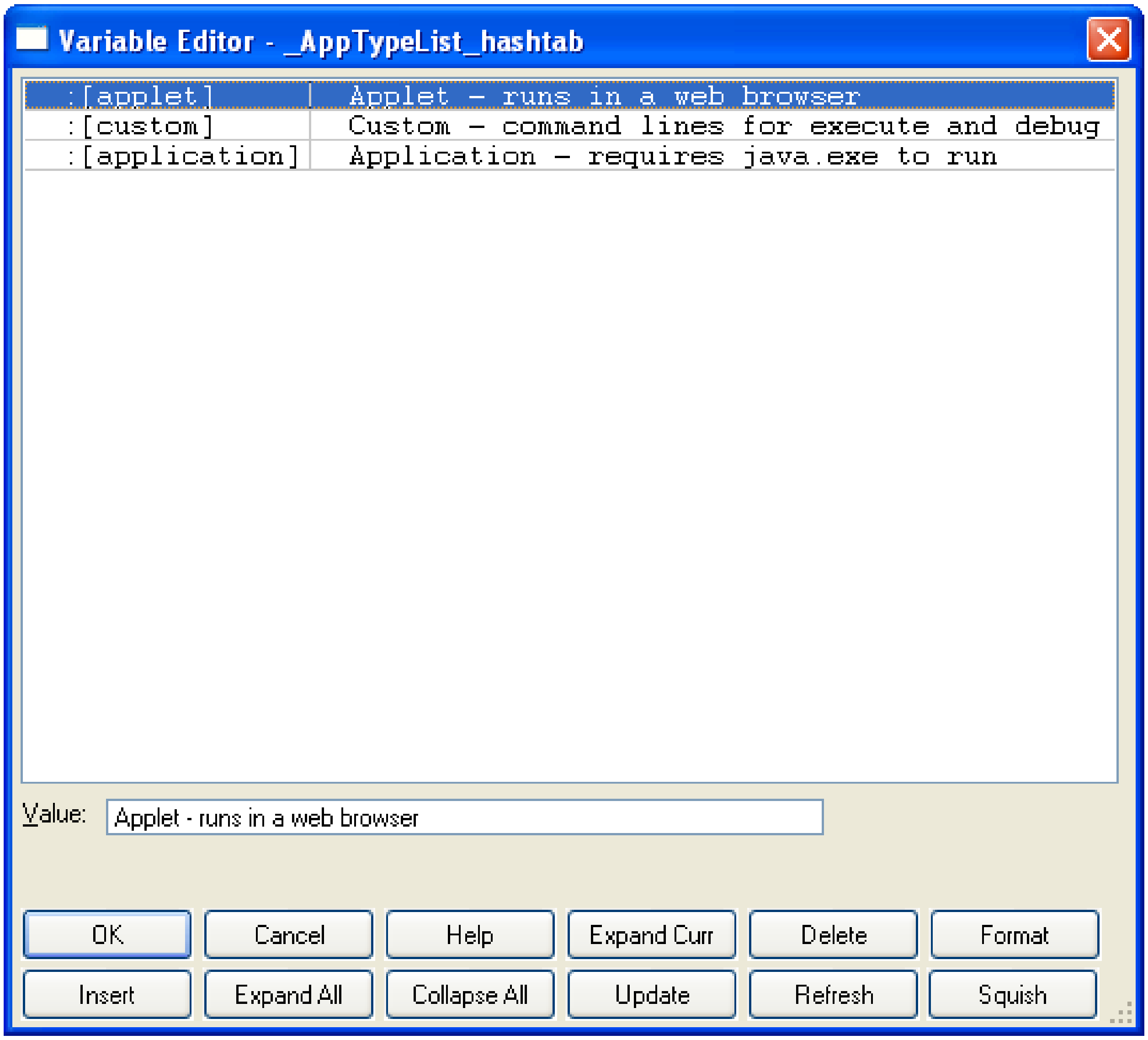
The dialog shows a list of all macros you have recorded. Use the buttons to perform the following operations:

- **Run** - Runs the selected macro. See Running a Recorded Macro for more information.
- **Cancel** - Closes the dialog.
- **Edit** - Opens the macro source for editing. See Saving and Editing Recorded Macros for more information.
- **Delete** - Deletes the selected macro. See Deleting Recorded Macros for more information.
- **Bind to Key** - Displays the Key Bindings dialog so you can assign a key or mouse shortcut to the macro. See Binding Recorded Macros to Keys for more information.

Variable Editor Dialog

The Variable Editor dialog, shown below, is used to edit complex variables for macros. For more information about working with these programmable macros, see Programmable Macros. To access the Variable Editor, click **Macro** → **Set Macro Variable**, or use the **gui_set_var** command, select a variable to edit from the list, then click the **Edit** button.

Figure 10.13. Variable Editor Dialog


Variable Editor - _AppTypeList_hashtab

```
:[applet]      Applet - runs in a web browser
:[custom]      Custom - command lines for execute and debug
:[application] Application - requires java.exe to run
```

Value: Applet - runs in a web browser

The data structure of the variable is displayed in the list box at the top of the dialog, and the value for each entry is displayed in the **Value** text box.

The following buttons are available:

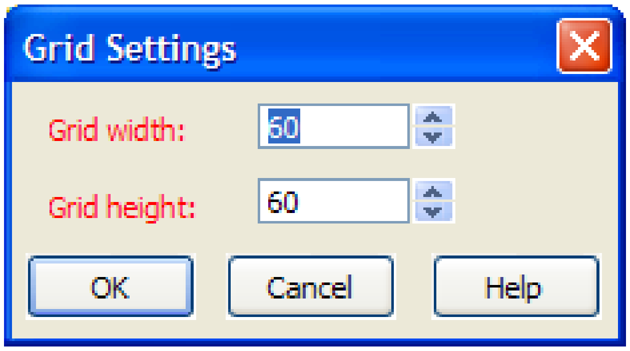
- **Expand Curr** - Expands current item which has a **Plus** (+) bitmap.
- **Delete** - Deletes current item.
- **Format** - Allows you to change the type of the current item.
- **Insert** - Inserts a new hash table or array element.
- **Expand All** - Expands all items so you can see the entire data structure.
- **Collapse All** - Display first level of variable with nothing expanded.

- **Update** - Sets the contents of the variable to what is currently displayed in the Variable Editor.
- **Refresh** - Cancels changes and displays current value of variable which is not necessarily the same as when this dialog box was originally displayed.
- **Squish** - Deletes array items which have the value **_notinit**.

Grid Settings Dialog

The Grid Settings dialog (**Macro** → **Grid** or **gui_grid** command) is used to set the width and height of grid dots displayed on forms when you use the Dialog Editor. These settings affect the distance between the dots on a form that is being edited.

Figure 10.14. Grid Settings Dialog



Grid width: 60

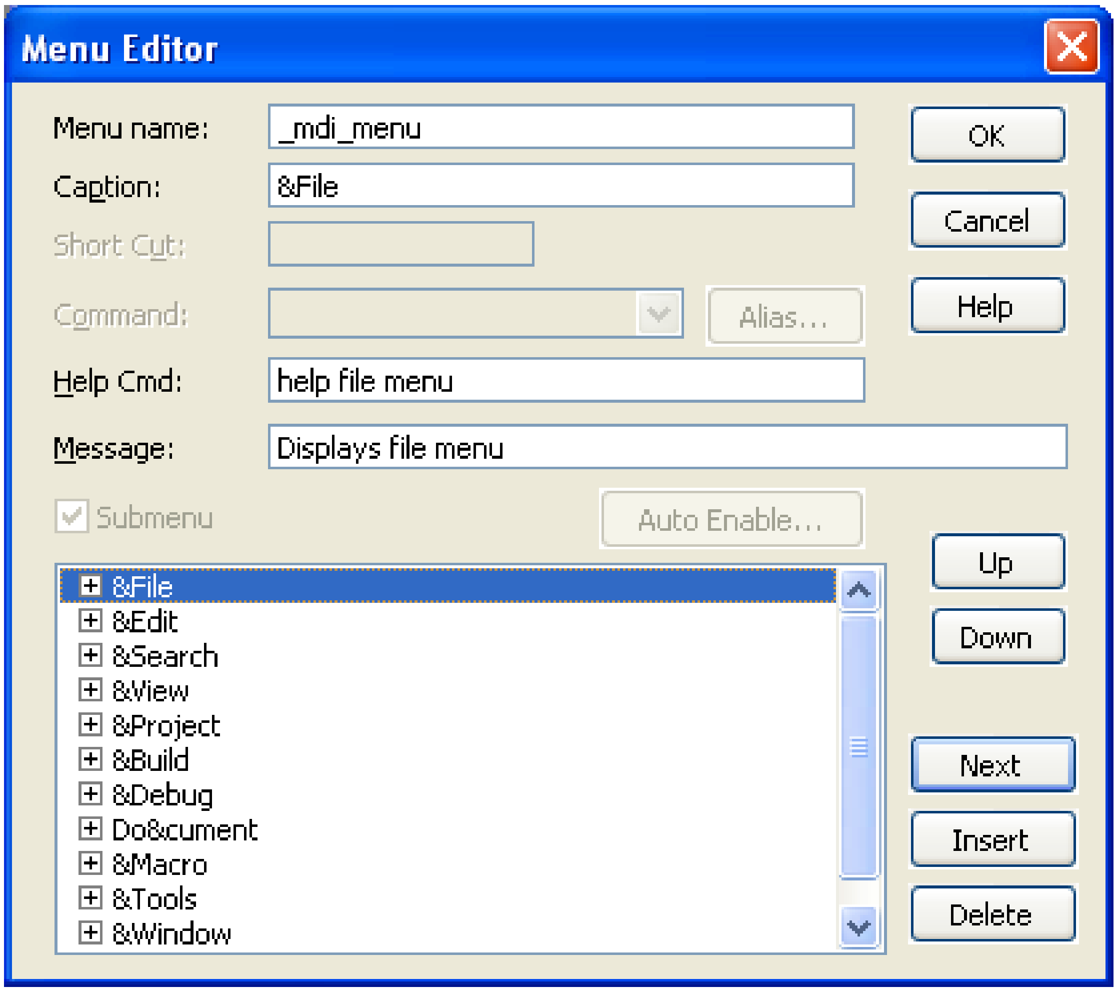
Grid height: 60

The width and height parameters are in twips (1440 twips equal one inch on the display).

Menu Editor Dialog

The Menu Editor dialog, shown below, contains options for editing menus. To access this dialog, click **Macro** → **Menus**, select the menu to edit from the list, then click **Open**.

Figure 10.15. Menu Editor Dialog



Menu name: _mdi_menu
Caption: &File
Short Cut:
Command:
Help Cmd: help file menu
Message: Displays file menu
[✓] Submenu

- &File
- &Edit
- &Search
- &View
- &Project
- &Build
- &Debug
- Do&cument
- &Macro
- &Tools
- &Window

The following fields and settings are available:

- **Menu name** - Name of the current menu resource. You can define your own menu resource which is used instead of our menu bar WITHOUT changing the name of our default menu bar **_mdi_menu**. Use the **-m** invocation option (for example, **-m mymenu**) or set the **def_mdi_menu** macro variable to your menu name (see Setting Macro Variables).
- **Caption** - Title displayed for the menu item. For menu items, set the caption to "**-**" to specify a line separator.
- **Short Cut** - Key binding shortcut for the menu item.
- **Command** - Macro command executed when the menu item is selected. This may be an internal macro command or a command line for running an external program.
- **Alias** - Displays the Menu Item Alias dialog box to set an alias for the menu item. See Defining Menu Item Aliases.
- **Help Cmd** - Macro command executed when **F1** is pressed when the menu item is selected. Usually it is a **help** or **popup_imessage** command. For example, if you specified **gui_open** as the menu item

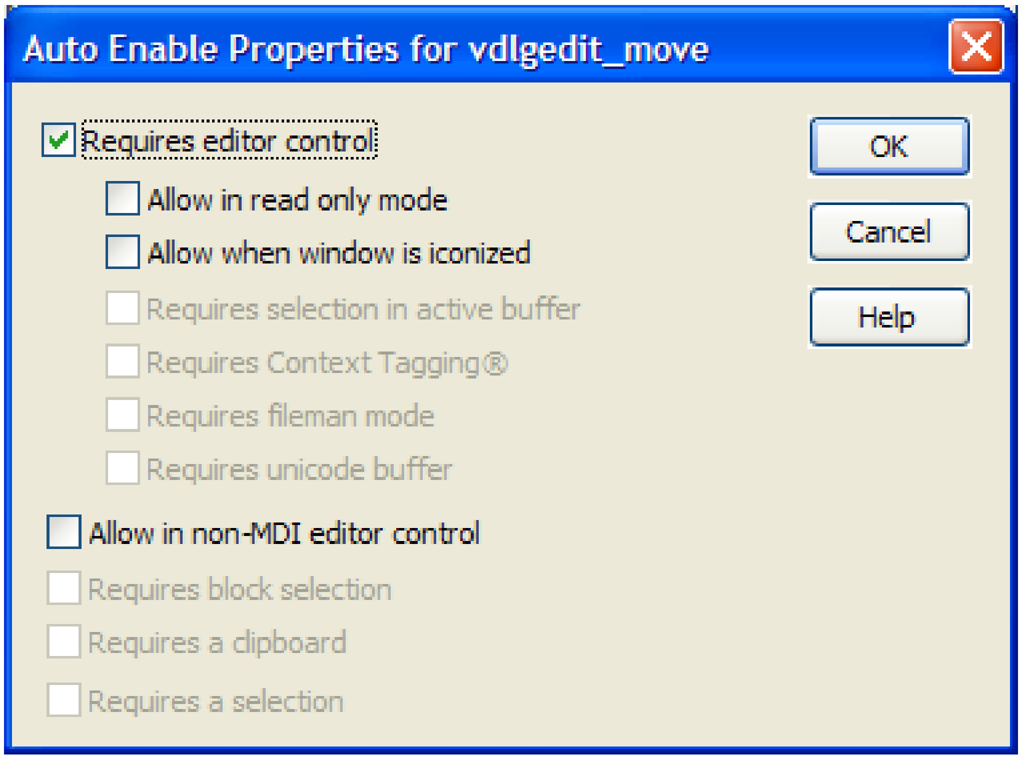
command, specify "help open dialog box" as the Help item. If you do not know the name of the dialog box displayed, search for Help on the command. The Help for each command should indicate the name of the dialog box displayed. Some commands do not display dialog boxes. For these commands, specify **help *command*** where ***command*** is name of the command this menu item executes or **help *xxxx* menu** where ***xxxx*** is the name of the drop-down menu this command is on.

- **Message** - Message text to be displayed when selection cursor is on this menu item. This message is currently only used when the menu is used as the SlickEdit® Core menu bar.
- **Submenu** - Check this box if you want to create a menu which contains other menu items.
- **Auto Enable** - Displays the Auto Enable Properties dialog box to set the properties for the menu item that should be automatically enabled. See Enabling/Disabling Menu Items and Auto Enable Properties Dialog.
- **Up** - Moves the selected menu item above the previous menu item.
- **Down** - Moves the selected menu item below the next menu item.
- **Next** - Selects the menu item after the currently selected menu for editing. Use this button to insert a blank menu item after the last menu item in the list.
- **Insert** - Inserts a blank menu item before the selected menu item.
- **Delete** - Deletes the selected menu item.

Auto Enable Properties Dialog

This dialog is used to set the auto-enable properties for a menu item. For example, the screen capture below shows the Auto Enable Properties dialog for **cut** on the **_textbox_menu**. For more information, see Enabling/Disabling Menu ItemsEnabling/Disabling Menu Items. To access this dialog, click the **Auto Enable** button on the Menu Editor dialog.

Figure 10.16. Auto Enable Properties Dialog


Auto Enable Properties for vdlgedit_move

[✓] Requires editor control
[ ] Allow in read only mode
[ ] Allow when window is iconized
[ ] Requires selection in active buffer
[ ] Requires Context Tagging®
[ ] Requires fileman mode
[ ] Requires unicode buffer
[ ] Allow in non-MDI editor control
[ ] Requires block selection
[ ] Requires a clipboard
[ ] Requires a selection

The following settings are available:

- **Requires editor control** - Indicates that this command should be enabled only if operating on an editor control.
- **Allow in read only mode** - Indicates that this command should be enabled if the editor control is in strict read only mode.
- **Allow when window is iconized** - Indicates that this command should be enabled if the editor control is an editor window which is iconized.
- **Requires selection in active buffer** - Indicates that this command should be disabled if there is no selection in the active buffer.
- **Requires Context Tagging®** - Indicates that this command should be disabled if Context Tagging does not support the current buffer language type.
- **Requires fileman mode** - Indicates that this command should be disabled if the current buffer is not in Fileman mode.
- **Requires unicode buffer** - Indicates that this command should be disabled if the current buffer is not Unicode.
- **Allow in non-MDI editor control** - Indicates that this command should be allowed in a non-MDI editor control.
- **Requires block selection** - Indicates that this command should be disabled if there is no selection or the current selection is not a type of block or column.

- **Requires a clipboard** - Indicates that this command should be disabled if there is no editor control clipboard available.
- **Requires a selection** - Indicates that this command should be disabled if there is no selection.

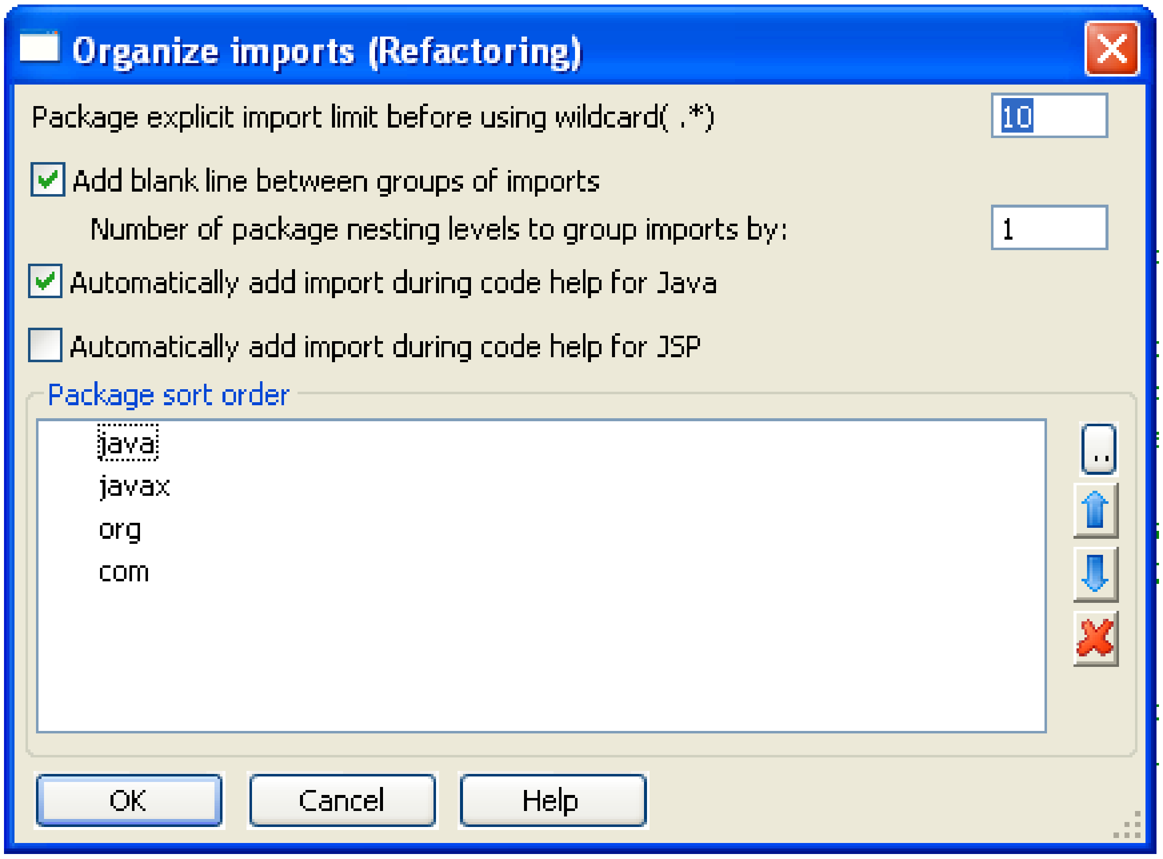
Tools Dialogs

This section describes SlickEdit Core dialogs related to tools and utilties. See Chapter 8, *Tools and Utilities* for more information.

Organize Imports Options Dialog

The behavior of the Organize Imports and Add Import features is controlled by the options on the Organize Imports Options dialog box, pictured below. This dialog can be accessed by right-clicking in the editor and selecting **Imports** → **Options**.

Figure 10.17. Organize Imports Options Dialog



Organize imports (Refactoring)

Package explicit import limit before using wildcard(.*) 10

[✓] Add blank line between groups of imports

Number of package nesting levels to group imports by: 1

[✓] Automatically add import during code help for Java

[ ] Automatically add import during code help for JSP

Package sort order

java
javax
org
com

The following settings are available:

- **Package explicit import limit before using wildcard(.*)** - If more than this number of classes are explicitly imported from the same package in one file, the imports will be replaced with a single wildcard import.
- **Add blank line between groups of imports** - Organize Imports will group imports by package name or top-level package name. Select this option to force Organize Imports to add a blank line between

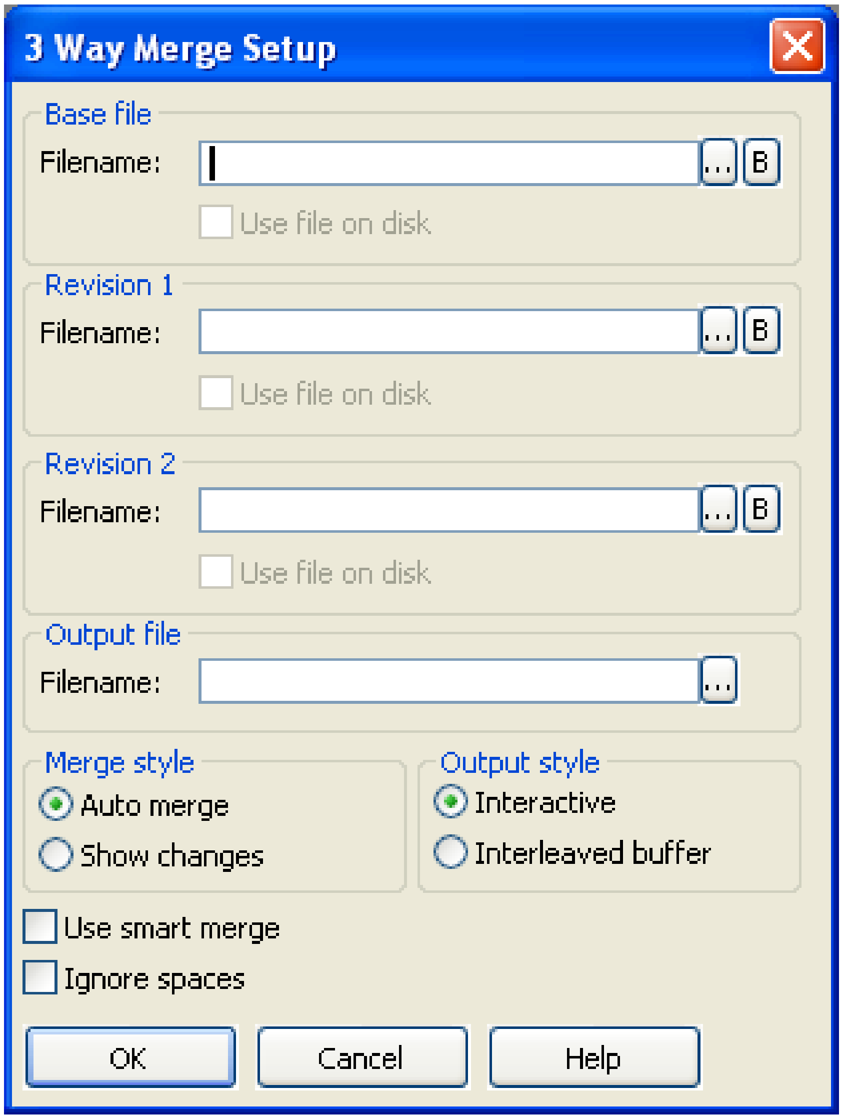
these groups instead of having just one flat list of imports.

- **Number of package nesting levels to group imports by** - If this is set to **1**, import statements will be grouped by top-level package name only. For example, all your imports from `java.` packages would be in a separate group from your imports from `com.` packages. If set to **2**, import statements will be grouped by second level package names. For example, all your imports from `java.util` would be in a separate group from your imports from `java.awt`.
- **Automatically add import during code help for Java** - If selected, SlickEdit® Core will attempt to automatically add imports as you edit Java code.
- **Automatically add import during code help for JSP** - If selected, SlickEdit Core will attempt to automatically add imports as you edit Java code embedded in HTML. JSP imports are added using the following notation: `<%@ page import="java.util.Vector"%>`.
- **Package sort order** - This list specifies the order in which package groups are sorted. Use the **Ellipses** (...) button to add a new package. Use the **Up** and **Down** arrow buttons to move items. Use the **X** button to delete the currently selected package from the list.

3-Way Merge Dialog

The 3-Way Merge dialog (**Tools** → **File Merge**) is used for merging file differences.

Figure 10.18. 3-Way Merge Dialog



3 Way Merge Setup

Base file
Filename: [ ] ... B
[ ] Use file on disk

Revision 1
Filename: [ ] ... B
[ ] Use file on disk

Revision 2
Filename: [ ] ... B
[ ] Use file on disk

Output file
Filename: [ ] ...

Merge style
[✓ Auto merge]
Show changes

Output style
[✓ Interactive]
Interleaved buffer

[ ] Use smart merge
[ ] Ignore spaces

The **Ellipses** buttons to the right of the text boxes are used to select files. The **B** buttons to the right of the text boxes are used to select from the open buffers.

The list below describes the remaining fields and settings:

- **Base file** - Specifies the file/buffer name of the original source file before any changes are made.
- **Revision 1** and **2** - Specifies the file/buffer names of the modified versions of the base file.
- **Output file** - Specifies the output file name.
- **Merge style** - The following merge styles are available:
  - **Auto merge** - If selected, if a change does not cause a conflict, the change is automatically applied to the output file and no indication is made that the change was already applied.
  - **Show changes** - If selected, if a change does not cause a conflict, the change is automatically ap-

plied to the output file and the change IS indicated, so that using the **Next Conflict** button will show you the change.

- **Output style** - **Output style** has no effect if there are no conflicts. The following output styles are available:
  - **Interactive** - Provides a friendly side-by-side dialog box which lets you pick the change you want in the output file. It also lets you edit.
  - **Interleaved buffer** - Creates an editor buffer which you must edit to resolve conflicts.
- **Use smart merge** - If selected, the number of conflicts found is reduced.
- **Ignore spaces** - If selected, leading and trailing spaces are ignored. The side-by-side output allows you to easily select the change that you want.

DIFFzilla® Dialog

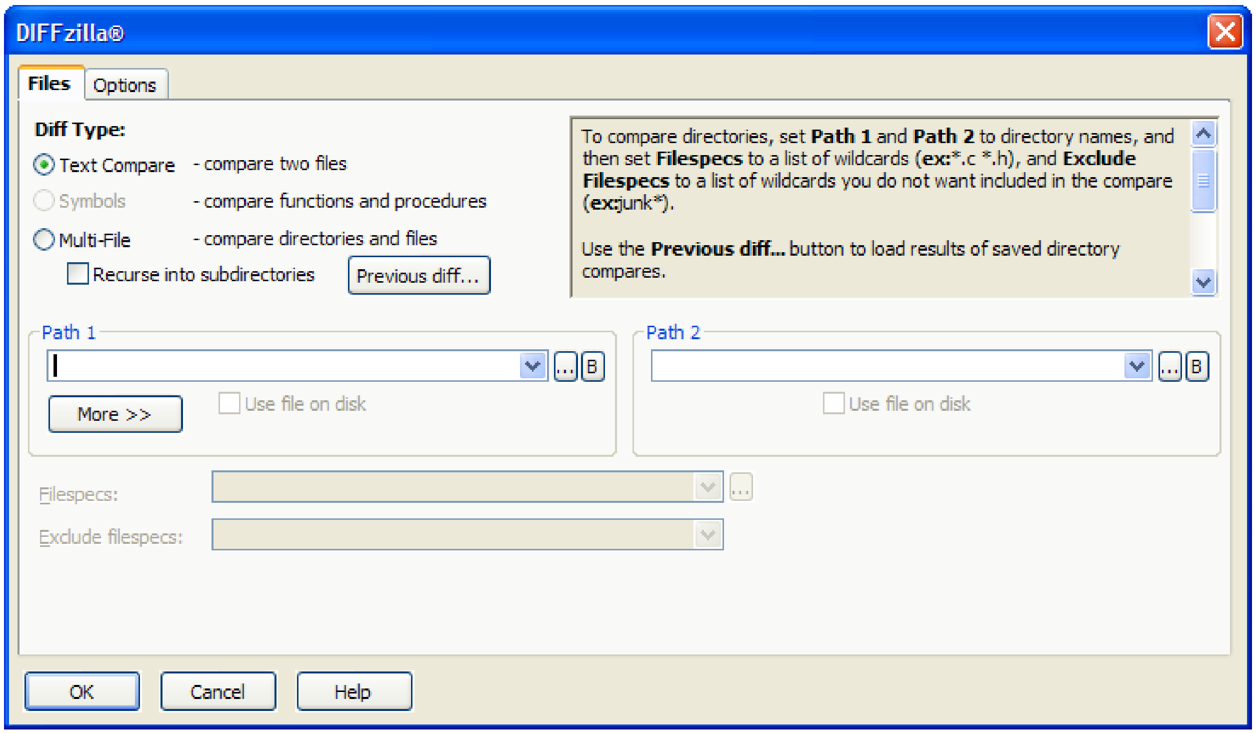
The DIFFzilla dialog (**Tools** → **File Difference**) is used to configure a file differencing operation and begin the diff. The options are categorized into two tabs:

- DIFFzilla Files Tab
- DIFFzilla Options Tab

DIFFzilla® Files Tab

You can compare two files or two source trees to determine which files have been added or removed and to generate a list of file names. Use this tab to set up the comparison parameters for the files that you wish to compare. After configuring your settings, click **OK** to start the diff.

Figure 10.19. DIFFzilla®: Files Tab



Diff Type:
(●) Text Compare - compare two files
( ) Symbols - compare functions and procedures
( ) Multi-File - compare directories and files
☐ Recurse into subdirectories

To compare directories, set **Path 1** and **Path 2** to directory names, and then set **Filespecs** to a list of wildcards (**ex:***.c *.h), and **Exclude Filespecs** to a list of wildcards you do not want included in the compare (**ex:**junk*).

Use the **Previous diff...** button to load results of saved directory compares.

Path 1
☐ Use file on disk

Path 2
☐ Use file on disk

Filespecs:

Exclude filespecs:

Diff Types

The following **Diff types** are available:

- **Text Compare** - Compares two files and shows the differences between them. When this option is selected, after you click **OK** on this dialog to start the comparison, the interactive Diff dialog is displayed, allowing you to preview the differences one-by-one before committing.

  If the option on the **Options** tab, **Instead of an interactive dialog, output one buffer with the differences labeled**, is checked, a buffer with the differences between the two files marked up will be displayed instead.

- **Symbols** - Allows the selection of a symbol in order to set the **Line Range** line numbers. Not all symbol ranges are identified. Ranges for multi-line variable declarations are not identified.

- **Multi-File** - Compares two directories or directory trees, and shows which files do not match. Select **Recurse into subdirectories** to search subdirectories recursively. Click **Previous diff** to load a diff state file (`.dif`), restoring the saved state of a multi-file diff session.

Path Information and Filespecs

The following list describes the path information and filespec settings that can be entered on the DIFFzilla® dialog:

- **Path 1**, **Path 2** - To compare directories, set **Path 1** and **Path 2** to directory names. To compare files, set **Path 1** and **Path 2** to file names. If the file names only differ by path, you only need to specify a directory for **Path 2**. Click the **Ellipses** button to browse, or the **B** button to select an open buffer.

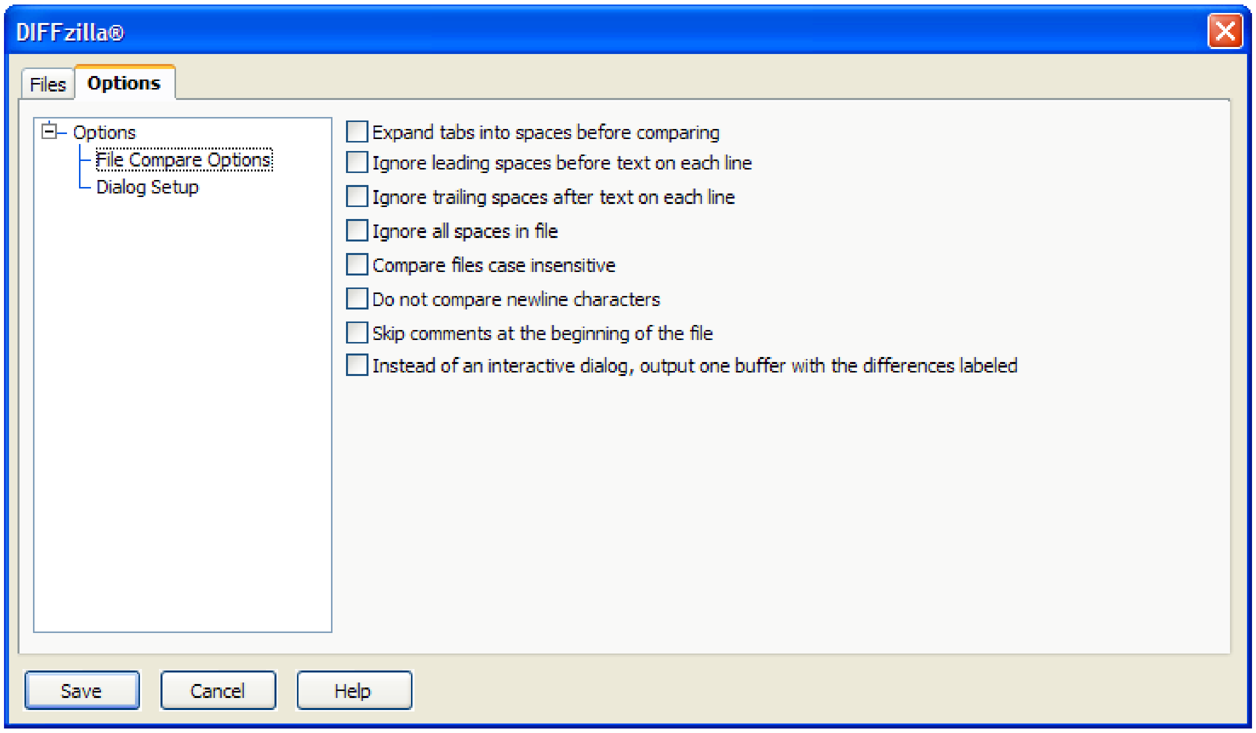
- **Use file on disk** - Select this option to diff the file on disk and not the file in the buffer.
- **More** - Click this button to display additional file options.
- **Symbols** - Click this button to select a symbol to diff. The selected symbol will appear next to the word "Symbol" under the **Line range** options. All symbols from **Path 1** are diffed against all symbols from **Path 2**. Performing a multi-file diff always diffs all symbols. When symbols are diffed, there is a multi-file diff on just two files which immediately diffs all symbols. Not all symbol blocks are identified correctly. For an example, see Comparing Symbols or Parts of Files.
- **Line range** - Specifies the start and end line numbers for the range of lines to compare. If you set the start line number and leave the end line number blank, the range extends to the end of the file. When you select a range of lines, you can compare parts of the same file.
- **Record file width** - Specifies the record width to use when reading a file (optional).
- **Filespecs** - Enter a space-delimited list of wildcard file specifications to difference. For example, enter "`*.c *.cpp *.h`" to difference all files with `.c`, `.cpp`, and `.h` extensions.
- **Exclude filespecs** - Enter a space-delimited list of wildcard file specifications to be excluded from the differencing. For example, enter **junk* test*** to exclude all files with names beginning with the words "junk" or "test".

DIFFzilla® Options Tab

Use this tab to set up file comparison options and options that affect the interactive Diff dialog. Click **Save** to save the options and close this dialog without running DIFFzilla. There are two types of options available: File Compare Options and Dialog Setup Options.

File Compare Options

Figure 10.20. DIFFzilla®: File Compare Options



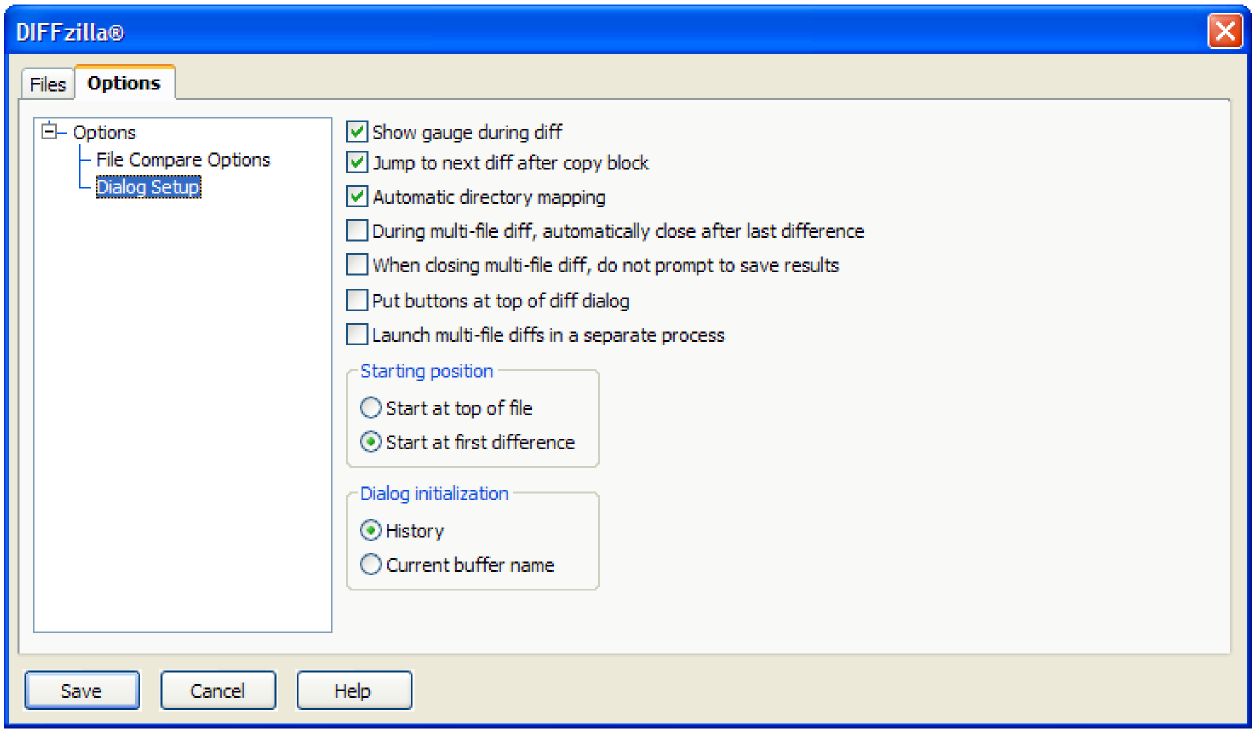
Expand tabs into spaces before comparing
Ignore leading spaces before text on each line
Ignore trailing spaces after text on each line
Ignore all spaces in file
Compare files case insensitive
Do not compare newline characters
Skip comments at the beginning of the file
Instead of an interactive dialog, output one buffer with the differences labeled

The file compare options, shown above, are described as follows:

- **Expand tabs into spaces before comparing** - When selected, tabs are expanded to the appropriate number of spaces before lines from each file that is compared.
- **Ignore leading spaces before text on each line** - When selected, differences in leading spaces of lines are ignored.
- **Ignore trailing spaces after text on each line** - When selected, differences in trailing spaces at the end of lines are ignored.
- **Ignore all spaces in file** - When selected, differences in spacing between characters in lines are ignored.
- **Compare files case insensitive** - When selected, differences in character casing are ignored.
- **Do not compare newline characters** - When selected, differences in end-of-line characters are ignored. This is useful when comparing UNIX-formatted files with DOS-formatted files.
- **Skip comments at the beginning of the file** - When selected, leading comments are ignored. This is useful if you are using a version control system that automatically inserts comment file headers.
- **Instead of an interactive dialog, output one buffer with the differences labeled** - When selected, a new buffer is created that contains color-coded difference output. You can edit the output buffer. When this option is not selected, the Diff dialog box opens displaying the two files side-by-side and the differences are color-coded.

Dialog Setup Options

Figure 10.21. DIFFzilla®: Dialog Setup Options



[✓] Show gauge during diff
[✓] Jump to next diff after copy block
[✓] Automatic directory mapping
[ ] During multi-file diff, automatically close after last difference
[ ] When closing multi-file diff, do not prompt to save results
[ ] Put buttons at top of diff dialog
[ ] Launch multi-file diffs in a separate process

Starting position
Start at top of file [✓ Start at first difference]

Dialog initialization
[✓ History] Current buffer name

Setup options for the DIFFzilla® dialog are described as follows:

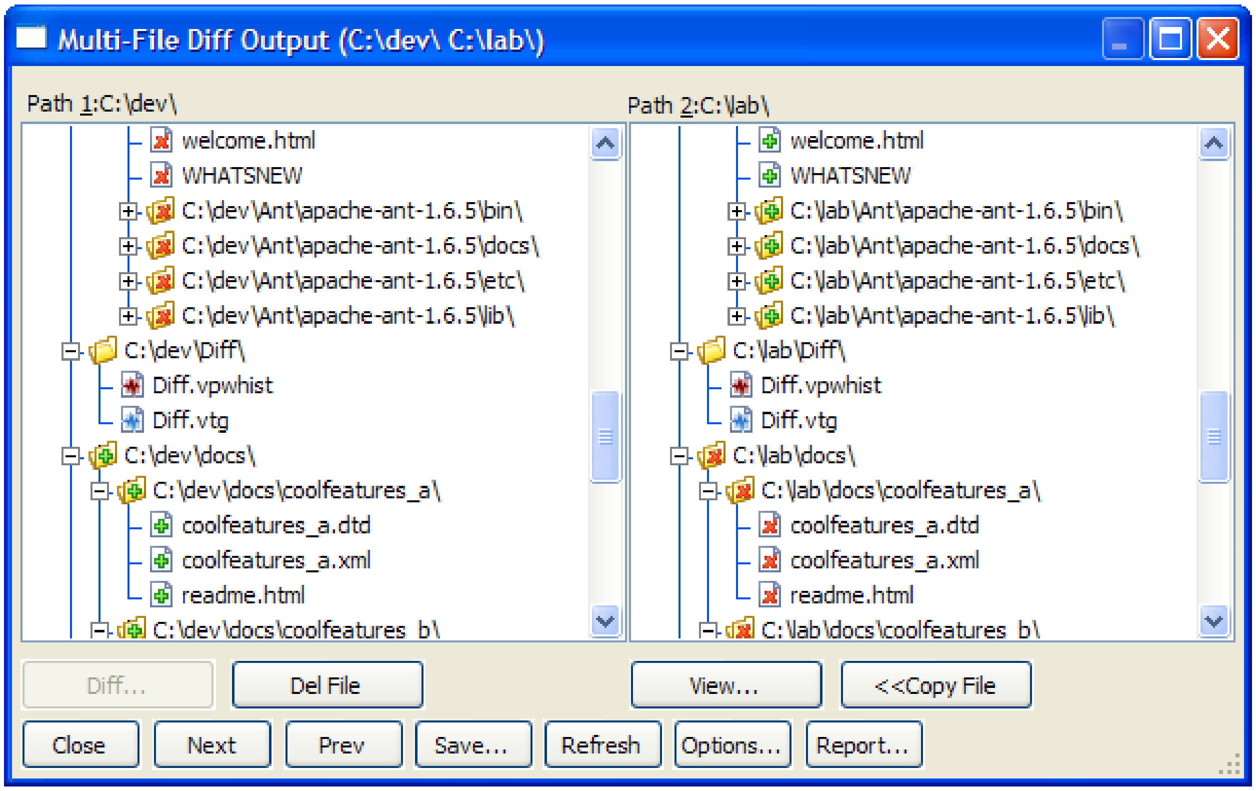
- **Show gauge during diff** - When selected, a gauge control will show various processing statistics while you wait for the differences output to complete.
- **Jump to next diff after copy block** - When selected, the cursor is moved to the next difference when you apply changes from one file to the other. For example, after clicking **Block** on the Diff dialog box, the tab moves to the next difference. This option has no effect on interleaved output.
- **Automatic directory mapping** - When selected, the **Path 2** text box is automatically updated when you type a directory in the **Path 1** text box.
- **During multi-file diff, automatically close after last difference** - When selected, clicking **Next Diff** on the Diff dialog box when there are no more differences, triggers the **Close** button on that dialog box.
- **Put buttons at top of diff dialog** - When selected, the buttons that control operations such as **Next Diff**, **Prev Diff**, and **Block**, are displayed at the top of the Diff dialog box.
- **Launch multi-file diffs in a separate process** - When selected, source trees are diffed in a separate process so you can continue working.
- **Starting position** - Determines whether to place the cursor at the top of the file or at the first difference when the Diff dialog box is displayed. This option has no effect on interleaved output.
- **Dialog initialization** - Determines whether the DIFFzilla dialog box restores previous dialog settings

(history) or just places the current buffer name into the **Path 1** text box. Press **F7**/ **F8** to restore the previous next dialog settings, respectively.

Multi-File Diff Output Dialog

When using DIFFzilla® to perform a directory comparison (**Multi-File** diff type), the results are presented in the Multi-File Diff Output dialog.

Figure 10.22. Multi-File Diff Output Dialog



```
welcome.html                              welcome.html
WHATSNEW                                  WHATSNEW
C:\dev\Ant\apache-ant-1.6.5\bin\          C:\lab\Ant\apache-ant-1.6.5\bin\
C:\dev\Ant\apache-ant-1.6.5\docs\         C:\lab\Ant\apache-ant-1.6.5\docs\
C:\dev\Ant\apache-ant-1.6.5\etc\          C:\lab\Ant\apache-ant-1.6.5\etc\
C:\dev\Ant\apache-ant-1.6.5\lib\          C:\lab\Ant\apache-ant-1.6.5\lib\
C:\dev\Diff\                              C:\lab\Diff\
Diff.vpwhist                              Diff.vpwhist
Diff.vtg                                  Diff.vtg
C:\dev\docs\                              C:\lab\docs\
C:\dev\docs\coolfeatures_a\               C:\lab\docs\coolfeatures_a\
coolfeatures_a.dtd                        coolfeatures_a.dtd
coolfeatures_a.xml                        coolfeatures_a.xml
readme.html                               readme.html
C:\dev\docs\coolfeatures_b\               C:\lab\docs\coolfeatures_b\
```

The Multi-File Diff Output dialog box contains the following elements:

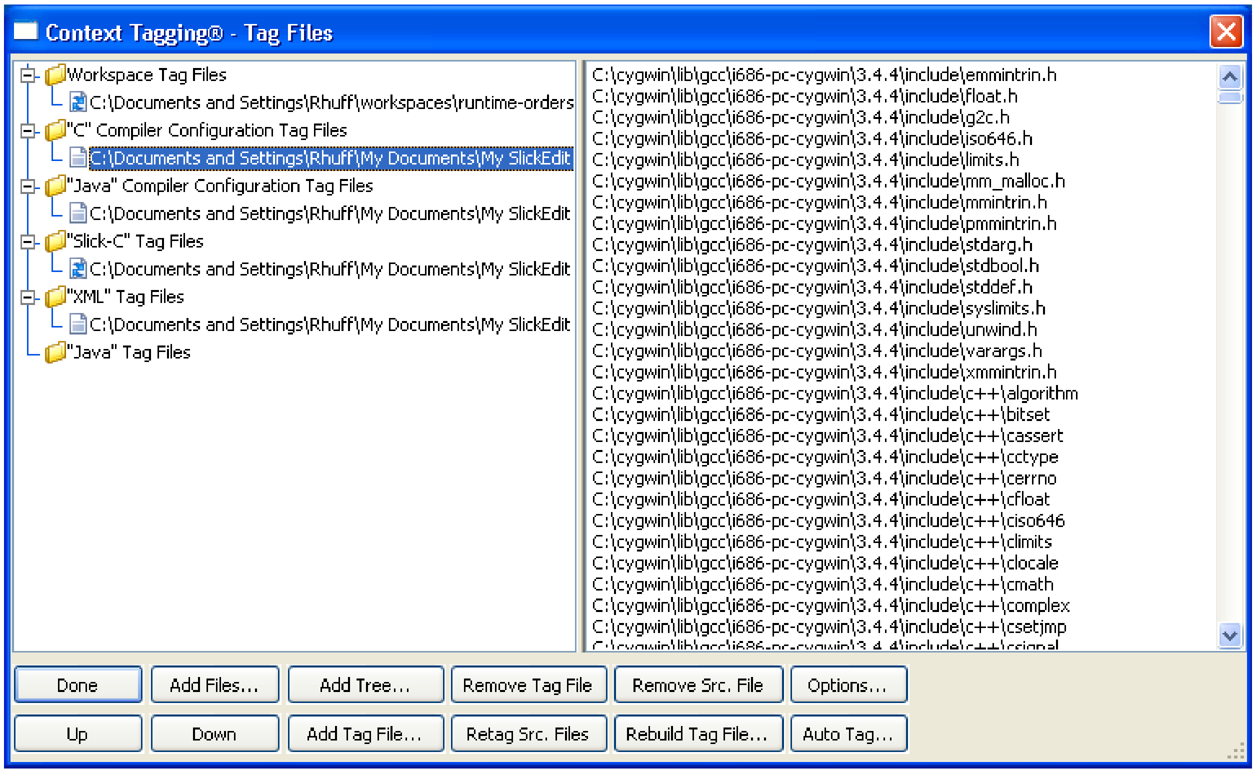
- **Diff** - Shows current files in the difference editor when the selected files differ.
- **Del File** - Deletes the selected file(s). Hold **Ctrl**+**Click** to multi-select in either tree. The **X** bitmap is displayed.
- **View** - Shows current files in the difference editor when the selected files match.
- **Copy File**/**Copy Tree** - **Copy File** is displayed when the selected files differ or when the selected file only exists in the current source tree. The **Plus** bitmap is displayed. **Copy Tree** is displayed when the selected item is a directory that only exists in the current source tree. When you click **Copy Tree**, you are prompted as to whether you want to copy the directory source tree recursively.

- **Next** - Moves the cursor to the next set of mismatched files in both source trees.
- **Prev** - Moves the cursor to the previous set of mismatched files in both source trees.
- **Save** - Lets you save a diff state file (`.dif`) that you can load later with the **Previous diff** button on the DIFFzilla® dialog box. This is especially useful when you have not completed merging files and you want to continue at a later time. Also, you can generate a file list.
- **Refresh** - Rediffs modified files or all files.
- **Options** - Displays the DIFFzilla Options Tab. Options include ignoring spaces, skipping leading comments, and expanding tabs.
- **Report** - Displays a report of the operations you performed in this dialog including file copies, file deletes, and diffs where changes were saved. In addition, you can save the report.

Context Tagging® - Tag Files Dialog

The Context Tagging® - Tag Files dialog, shown below, is used to manage all your tag files. For more information on tagging, see Context Tagging Overview. To access the dialog, click **Tools** → **Tag Files**.

Figure 10.23. Context Tagging® - Tag Files Dialog



```
Workspace Tag Files
    C:\Documents and Settings\Rhuff\workspaces\runtime-orders
"C" Compiler Configuration Tag Files
    C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Java" Compiler Configuration Tag Files
    C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Slick-C" Tag Files
    C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"XML" Tag Files
    C:\Documents and Settings\Rhuff\My Documents\My SlickEdit
"Java" Tag Files
```

```
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\emmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\float.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\g2c.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\iso646.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\limits.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\mm_malloc.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\mmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\pmmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stdarg.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stdbool.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\stddef.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\syslimits.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\unwind.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\varargs.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\xmmintrin.h
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\algorithm
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\bitset
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cassert
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cctype
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cerrno
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cfloat
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\ciso646
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\climits
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\clocale
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\cmath
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\complex
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\csetjmp
C:\cygwin\lib\gcc\i686-pc-cygwin\3.4.4\include\c++\csignal
```

The left section of the dialog lists all of your tag files, separated into categories. A tag file having a **File** bitmap with blue arrows indicates the tag file is built with support for cross-referencing. The right section of the dialog lists all the source files indexed by the currently selected tag file.

For descriptions of the Tag File categories, listed on the left side of the dialog, see Tag File Categories.

The following buttons are available on the Context Tagging® - Tag Files dialog:

- **Done** - Saves tag file settings and closes the dialog box.
- **Add Files** - Displays the Add Source Files dialog box, from which you can add a set of files to the currently selected tag file. This button will be unavailable for read-only tag files and auto-updated tag files. If you add files to your workspace tag file, you will be prompted if you want to also add the files to your project.
- **Add Tree** - Displays the Add Tree dialog box, from which you can recursively add a directory of files to the currently selected tag file. This button will be unavailable for read-only tag files and auto-updated tag files. If you add files to your workspace tag file, you will be prompted if you want to also add the files to your project.
- **Remove Tag File** - Deletes the currently selected tag file. You will be prompted whether or not to delete the tag file from the list, and then whether or not to permanently delete the tag file from disk. Note that some extension-specific tag files are automatically generated, and thus will be automatically regenerated if you delete them.
- **Remove Src. File** - Removes the selected files from the currently selected tag file. If no files are selected, you will be prompted whether or not to remove all source files from the tag file. If you remove files from your workspace tag file, you will be prompted if you want to also remove the files from your project.
- **Options** - Displays the Context Tagging® Options dialog box for you to configure Context Tagging options. See Context Tagging Options Dialog for more information.
- **Up** - Moves the selected tag file higher in the search order. This primarily applies to extension-specific tag files (see Creating Extension-Specific Tag Files).
- **Down** - Moves the selected tag file lower in the search order. This primarily applies to extension-specific tag files (see Creating Extension-Specific Tag Files).
- **Add Tag File** - Displays the Add Tag File dialog box, which allows you to choose from a list of languages the source type for which to insert the tag file. To automatically create tag files for C++, Java, and .NET, you can instead use the Create Tag Files for Run-Time Libraries dialog (see Creating Tag Files for Run-Time Libraries).
- **Retag Src. Files** - Updates the Context Tagging information for the selected files in the currently selected tag file. If no files are selected, you will be prompted whether or not to retag all source files.
- **Rebuild Tag File** - Displays the Rebuild Tag File dialog box containing options for rebuilding the selected file. See Rebuilding Tag Files.
- **Auto Tag** - Displays the Create Tag Files for Run-Time Libraries dialog box used to automatically create run-time library tag files for C++, Java, and .NET (see Creating Tag Files for Run-Time Libraries).

Options Dialogs

This section describes SlickEdit® Core dialogs and views related to options.

General Options Dialog

Many common user preferences can be set from the General Options dialog. To work with this dialog, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting.

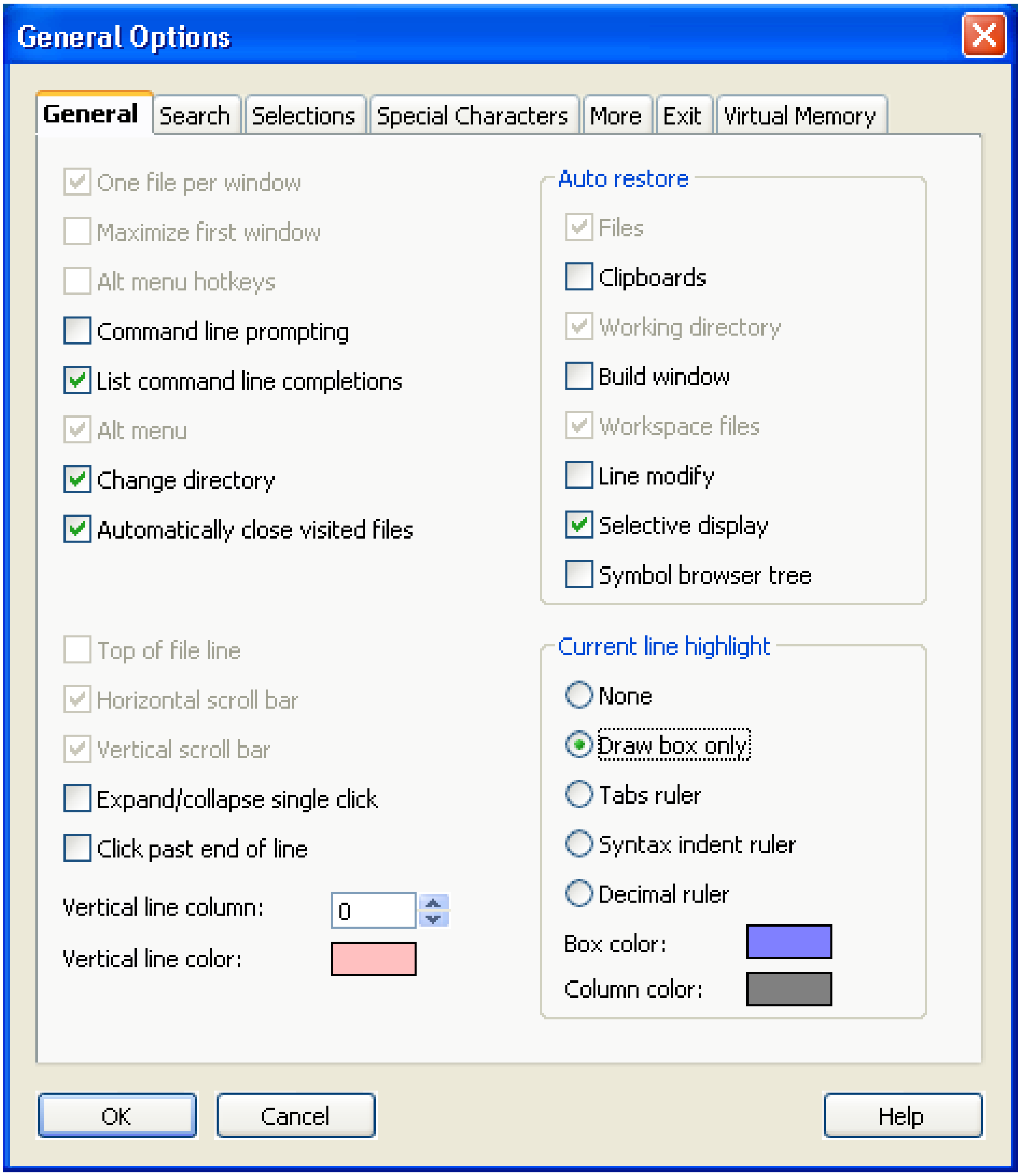
There are seven categories (tabs) available, listed below. Information about working with these general options is located throughout the documentation on a contextual basis.

- General Tab - The **General** tab contains general option settings.
- Search Tab - This tab contains options to control your searching preferences.
- Selections Tab - The **Selections** tab allows you to set text selection style preferences.
- Special Characters Tab - Activating view of special characters inserts characters into your file to show such items as tabs, spaces, and line endings. When characters are defined in the **Special Characters** tab, they are displayed instead of the original characters when the view options are on. See Viewing Special Characters for more information.
- More Tab - The **More** tab contains additional option settings.
- Exit Tab- The **Exit** tab contains options regarding exiting the program.
- Virtual Memory Tab - This tab stores information for the virtual memory.

General Tab

The **General** tab is used to set general configuration options in SlickEdit® Core.

Figure 10.24. General Options: General Tab



- [✓] One file per window
- [ ] Maximize first window
- [ ] Alt menu hotkeys
- [ ] Command line prompting
- [✓] List command line completions
- [✓] Alt menu
- [✓] Change directory
- [✓] Automatically close visited files
- [ ] Top of file line
- [✓] Horizontal scroll bar
- [✓] Vertical scroll bar
- [ ] Expand/collapse single click
- [ ] Click past end of line

Vertical line column: 0

Vertical line color: 🟥

Auto restore

- [✓] Files
- [ ] Clipboards
- [✓] Working directory
- [ ] Build window
- [✓] Workspace files
- [ ] Line modify
- [✓] Selective display
- [ ] Symbol browser tree

Current line highlight

None [✓ Draw box only] Tabs ruler Syntax indent ruler Decimal ruler

Box color: 🟦

Column color: ⬛

The following options are available:

- **One file per window** - (Not available in SlickEdit Core.) If checked, each file you open will be allocated in its own window. If unchecked, each file will open in the same window.
- **Maximize first window** - (Not available in SlickEdit Core.) If checked, the first editor window opened will be maximized.

- **Alt menu hotkeys** - (Not available in SlickEdit Core.) If checked, **Alt**-prefixed keyboard shortcuts will display the corresponding drop-down menu. If unchecked, you can be more selective about key bindings because you are permitted to bind **Alt** keys you normally could not, such as **Alt**+**F**. Do not check this option if you bind **Alt** keys that are normally menu keys, because you will lose these key bindings. This option is unavailable using the CUA emulation.

- **Command line prompting** - Many commands that display dialog boxes have equivalent commands that prompt for arguments on the command line. For faster prompting than the dialog boxes allow, check this option. See Command Line Prompting for more information.

- **List command line completions** - If checked, when typing a command on the command line, a list of possible commands and argument completions will be displayed above or below the command line. See Command Line Completions for more information.

- **Alt menu** - (Not available in SlickEdit Core.) If checked, when the **Alt** key is pressed without following it with another key, the cursor will pop to the menu bar.

- **Change directory** - (Not available in SlickEdit Core.) If checked, the current directory is changed in the editor when the directory is changed in the Change Directory dialog (**File** → **Change Directory**) and the Open and Save As dialogs (**File** → **Open** and **File** → **Save As**).

- **Show files beginning with a dot.** - (Not available in SlickEdit Core.) This option controls the default value of the **Show hidden files** option on the UNIX File Open and Save dialogs (and the Open tool window for all platforms). Check this option to have the **Show hidden files** option checked by default each time the dialogs/tool window are displayed. The value of **Show hidden files** is controlled by the global variable **def_filelist_show_dotfiles**. By default, this option is on for Windows, and off for UNIX platforms.

- **Automatically close visited files** - If selected, a visited file will be automatically closed when it is navigated away from. If not selected, the auto-close feature will be turned off. If left in the mixed state, you will be prompted whether or not you want to close files. A file is considered "visited" if it is opened as a result of a symbol navigation or search operation, and not modified, and subsequently navigated away from, for example, by using **pop_bookmark** (**Ctrl**+**Comma**).

- **Top of file line** - (Not available in SlickEdit Core.) If selected, each buffer displays a line which contains the text "Top of File". This indicator for the location of the top of the file is displayed at line 0 which does not affect lines of code.

  Rather than using the **Top of file line** option, you can use **Ctrl**+**Shift**+**Enter** (**Ctrl**+**Enter** in Visual C++ and Visual Studio emulation) to insert a new line above the line where the cursor is located.

- **Horizontal scroll bar** - (Not available in SlickEdit Core.) If checked, each edit window displays a horizontal scroll bar. This does not affect edit window controls on dialog boxes.

- **Vertical scroll bar** - (Not available in SlickEdit Core.) If checked, each edit window displays a vertical scroll bar. This does not affect edit window controls on dialog boxes.

- **Expand/collapse single click** - If checked, Selective Display **Plus** and **Minus** bitmaps can be expanded or collapsed with a single click. This causes Selective Display to operate similar to Windows Explorer. However, you will not be able to select a line by clicking to the left of a text line which contains a Selective Display bitmap. For more information, see Selective Display.

- **Click past end of line** - If checked, the cursor can be placed past the end of a line.
- **Vertical line column** - Specifies the column in which the editor is to display a vertical line. Specify **0** to display no vertical line.
- **Vertical line color** - Click on the colored box to change the color of the line.
- **Auto restore** - The **Auto restore** options control which elements of your SlickEdit Core environment are restored when you switch workspaces or close and re-open SlickEdit Core. See Restoring Settings on Startup for more information about these options.
- **Current line highlight** - Select from the following options pertaining to the highlight effect of the current line:
  - **None** - If selected, the current line will not be highlighted.
  - **Draw box only** - If selected, a dotted box will be drawn around the current line.
  - **Tabs ruler** - If selected, a box will be drawn around the current line and tab stops will be marked.
  - **Syntax indent ruler** - If selected, a box will be drawn around the current line with the Syntax Indent levels marked.
  - **Decimal ruler** - If selected, a box will be drawn around the current line with marks at multiples of five and 10.
  - **Box color** - Click on the colored box to select the dotted box color.
  - **Column color** - Click on the colored box to select the column marker color. This is the same as the margin line color.

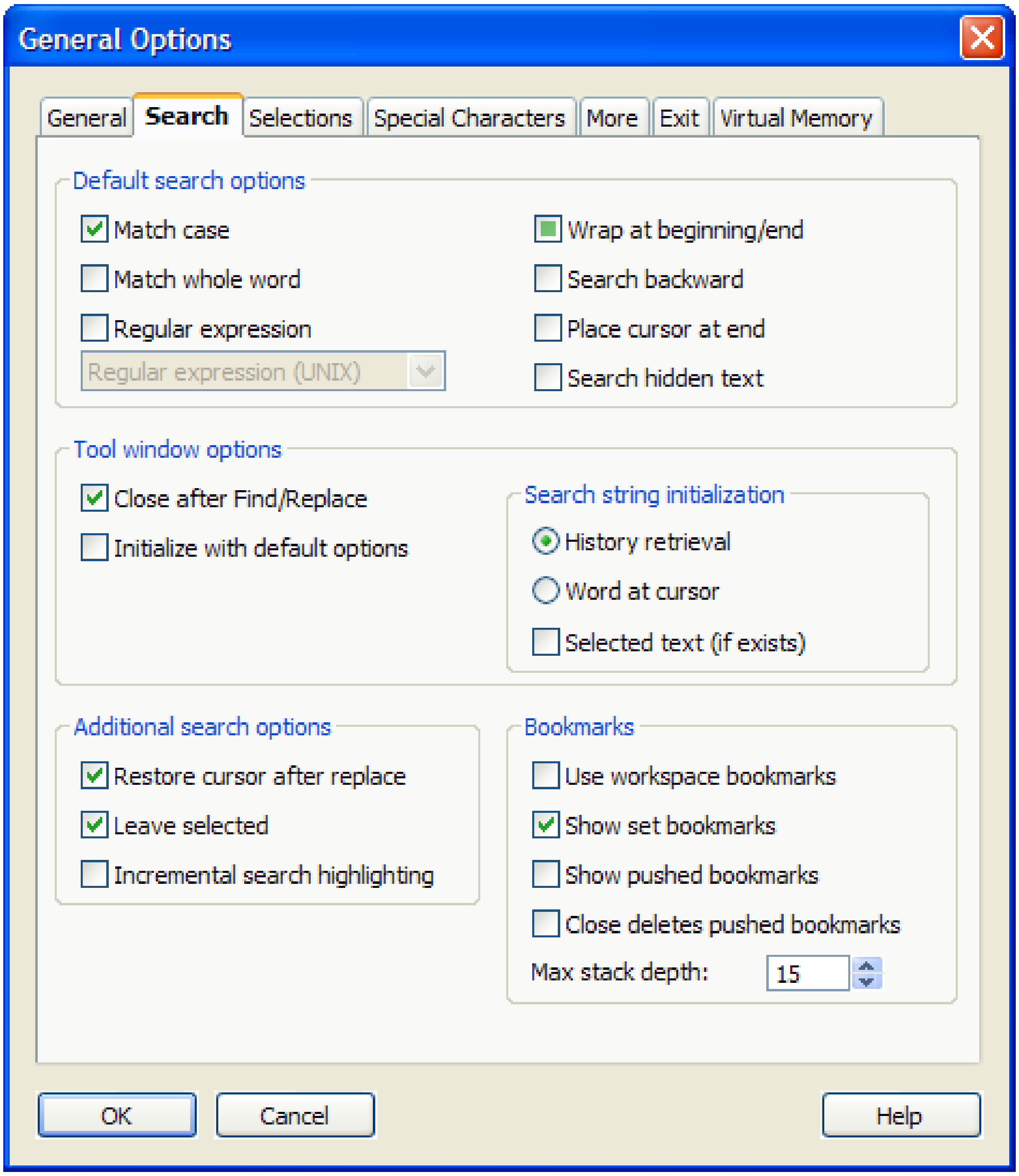
Search Tab

The **Search** tab contains default search options. For more information about working with search and replace operations, see Find and Replace.

There are two ways to access search options:

- From the Find and Replace view (click **Search** → **SlickEdit Search/Replace**), right-click on the background and select **Configure Options**. This will display the **Search** tab of the General Options dialog.
- From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **Search** tab.

Figure 10.25. General Options: Search Tab



Default search options

- [✓] Match case
- [ ] Match whole word
- [ ] Regular expression
- Regular expression (UNIX)
- [■] Wrap at beginning/end
- [ ] Search backward
- [ ] Place cursor at end
- [ ] Search hidden text

Tool window options

- [✓] Close after Find/Replace
- [ ] Initialize with default options

Search string initialization

- (●) History retrieval
- ( ) Word at cursor
- [ ] Selected text (if exists)

Additional search options

- [✓] Restore cursor after replace
- [✓] Leave selected
- [ ] Incremental search highlighting

Bookmarks

- [ ] Use workspace bookmarks
- [✓] Show set bookmarks
- [ ] Show pushed bookmarks
- [ ] Close deletes pushed bookmarks
- Max stack depth: 15

The following options are available:

- **Default search options** - The following default search options apply to all command line searches, quick searches and incremental searches, and to the Find and Replace view when the option **Initialize with default options** is checked.

  - **Match case** - If checked, various search commands default to case-sensitive searches.
  - **Match whole word** - If checked, refines search results to match only the word as a whole. By default, this is unchecked, and search results will match all instances of the word, ignoring characters that are to the left and right of the occurrence.
  - **Regular expression** - If checked, various search commands (**/**, **find**, or **c**) default to regular expression searching. Specify which syntax to use from the drop-down list.
  - **Wrap at beginning/end** - If checked, various search commands default to wrapping to the beginning or end of a buffer to complete a search.
  - **Search backward** - If checked, searches are performed from the end to the beginning.
  - **Place cursor at end** - If checked, the cursor is placed at the end of the occurrence found.
  - **Search hidden text** - Check this option to search for text hidden by Selective Display. Matches found that were set to be hidden by Selective Display will be revealed. To set Selective Display options, from the main menu click **View** → **Selective Display**. See Selective Display for more information.
- **Find and Replace view options** - The following options on the **Search** tab pertain to the Find and Replace view (see Find and Replace View):
  - **Close after Find/Replace** - If checked, the Find and Replace view is closed after finding text in the buffer.
  - **Initialize with default options** - If checked, the search options in the Find and Replace view will be reset to the default options each time it is launched. By default, this option is unchecked, and search options are retained when the Find and Replace view is closed and re-opened. The window will retain the current set of options as long as it remains open (this includes auto-hide when docked).
- **Search string initialization options** - The following options on the **Search** tab provide starting values for when a search and replace operation is activated:
  - **History retrieval** - If selected, the Find and Replace view uses the last item that was searched, for the word used when performing a search.
  - **Word at cursor** - If selected, the Find and Replace view uses the word that is at the cursor when performing a search.
  - **Selected text (if exists)** - If checked, the Find and Replace view uses the text that you have selected in the editor to perform the search.
- **Additional search options** - The following additional search options are available on the **Search** tab:
  - **Restore cursor after replace** - If checked, the cursor is restored to its original position after a search and replace operation completes and is not canceled.
  - **Leave selected** - If checked, the last occurrence of a search string that was found is left selected. This also affects whether pressing **Esc** during a search and replace leaves the search string selec-

ted.

- **Incremental search highlighting** - If checked, when an incremental search is performed, matching occurrences will be highlighted with two colors: one for the current match at the cursor, and one for all possible matches. Highlights are removed when the incremental search command terminates. Highlight colors can be set using the Color Settings Dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting). Select the items **I-Search Current Match** and **I-Search Highlight** from the element list. See Incremental Searching for more information.

- **Bookmarks** - These options provide for the control and viewing of bookmarks. See Bookmarks for more information.

  - **Use workspace bookmarks** - By default, bookmarks are stored globally and are visible in all workspaces. If this option is checked, bookmarks are associated with the workspace used to create them, even if the files they are in are not part of the workspace. When you switch workspaces, the Bookmarks view will display only the bookmarks associated with this workspace.

  - **Show set bookmarks** - If checked, a green **Bookmark** bitmap is displayed in the left margin of the editor control corresponding to the bookmarks you have set.

  - **Show pushed bookmarks** - If checked, a blue **Bookmark** bitmap is displayed in the left margin of the editor control corresponding with each location on your bookmark stack. This helps you see where "Pop Bookmark" will go.

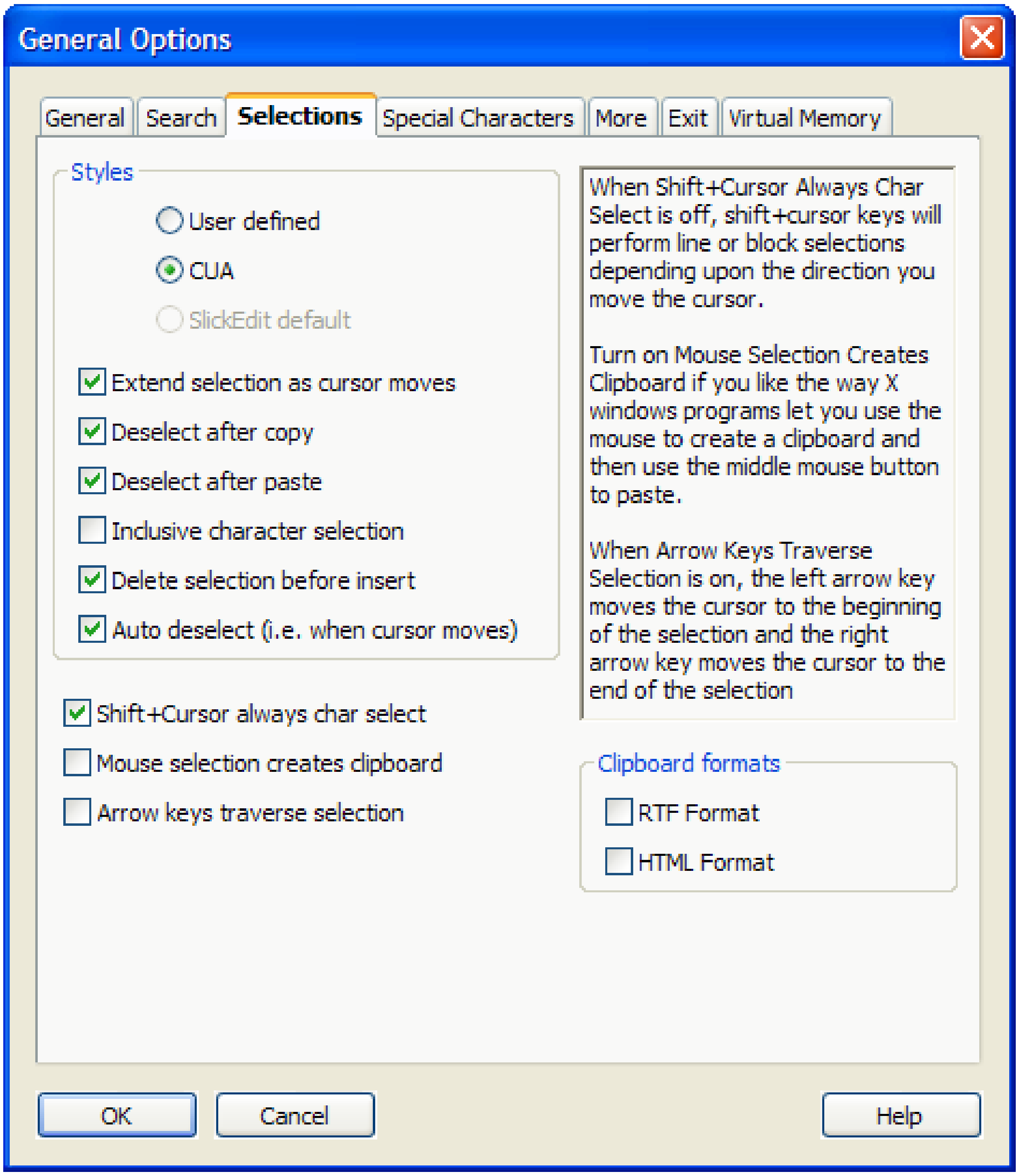
  - **Close deletes pushed bookmarks** - If checked, when a buffer is closed (quit), any pushed bookmarks remaining in that file are removed. This option is helpful for buffer management, because it prevents buffers which were explicitly closed from coming back when you pop up out of your bookmark stack.

  - **Max stack depth** - By default, the maximum stack depth for the bookmark stack is set to 15 entries. If you push more than this number of bookmarks, the oldest bookmark will be removed. Enter the number of entries that you want the bookmark stack to hold in this field.

Selections Tab

The **Selections** tab, pictured below, is where you can set preferences for selections. These options are accessed from the main menu: Click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **Selections** tab. For more information about working with selections, see Selections.

Figure 10.26. General Options: Selections Tab



Styles

( ) User defined
(●) CUA
( ) SlickEdit default

☑ Extend selection as cursor moves
☑ Deselect after copy
☑ Deselect after paste
☐ Inclusive character selection
☑ Delete selection before insert
☑ Auto deselect (i.e. when cursor moves)

☑ Shift+Cursor always char select
☐ Mouse selection creates clipboard
☐ Arrow keys traverse selection

When Shift+Cursor Always Char Select is off, shift+cursor keys will perform line or block selections depending upon the direction you move the cursor.

Turn on Mouse Selection Creates Clipboard if you like the way X windows programs let you use the mouse to create a clipboard and then use the middle mouse button to paste.

When Arrow Keys Traverse Selection is on, the left arrow key moves the cursor to the beginning of the selection and the right arrow key moves the cursor to the end of the selection

Clipboard formats

☐ RTF Format
☐ HTML Format

The following settings are available:

- **Styles** - Choose the selection style you wish to use from the following options:
  - **User defined** - This option is for setting your own selection preferences. Any changes that are made to the CUA behaviors automatically select **User Defined**. Selecting **CUA** automatically resets the se-

lect behaviors.

  - **CUA (default)** - When this style is selected, selected text is deleted before a paste or character is inserted unless the selection is locked. Pressing the **Backspace** or **Delete** keys deletes the selection unless the selection is locked. Advanced selections (those selections not started with the mouse or **Shift**+**<arrow keys>**) are extended as the cursor moves. Locking a selection requires one of the emulation commands **select_line**, **select_block**, or **select_char**. To access these commands from **Edit** pull-down menu, select this option in any emulation.
  - **SlickEdit default** - When this style is selected, SlickEdit® Core uses the default styles that are enabled when the product is installed.

- **Extend selection as cursor moves** - When checked, the selection is extended to cursor position. This option is not available if using Brief or Emacs emulation.
- **Deselect after copy** - Indicates whether copied text is selected. This is not available if using Brief or Emacs emulation.
- **Deselect after paste** - Indicates whether pasted text is selected. This is not available if using Brief or Emacs emulation.
- **Inclusive character selection** - When checked, a character selection includes the character following the cursor. This option is not available if using Brief or Emacs emulation.
- **Delete selection before insert** - Indicates whether a selection is deleted before new text is inserted. This option is not available if using a Brief or Emacs emulation.
- **Auto deselect** - Check this box to clear a selection when the cursor moves or one of a few other editor operations occurs. This option is not available if using a Brief or Emacs emulation.
- **Shift+Cursor always char select** - When this check box is cleared, pressing the **Shift**+**<arrow keys>** will select line or block selections, depending upon the direction the cursor moves. This is not available if using a Brief emulation.
- **Mouse selection creates clipboard** - Select this option to use the left mouse button to create a clipboard and to use the middle mouse button to paste.
- **Arrow keys traverse selection** - If checked, the **Left** arrow key moves the cursor to the beginning of the selection and the **Right** arrow key moves the cursor to the end of the selection.
- **Clipboard formats** - Select the type of editing format for clipboards, allowing you to paste formatted and color-coded text to other applications (as well as plain text). Choose from **Rich Text Format** or **HTML**.

Special Characters Tab

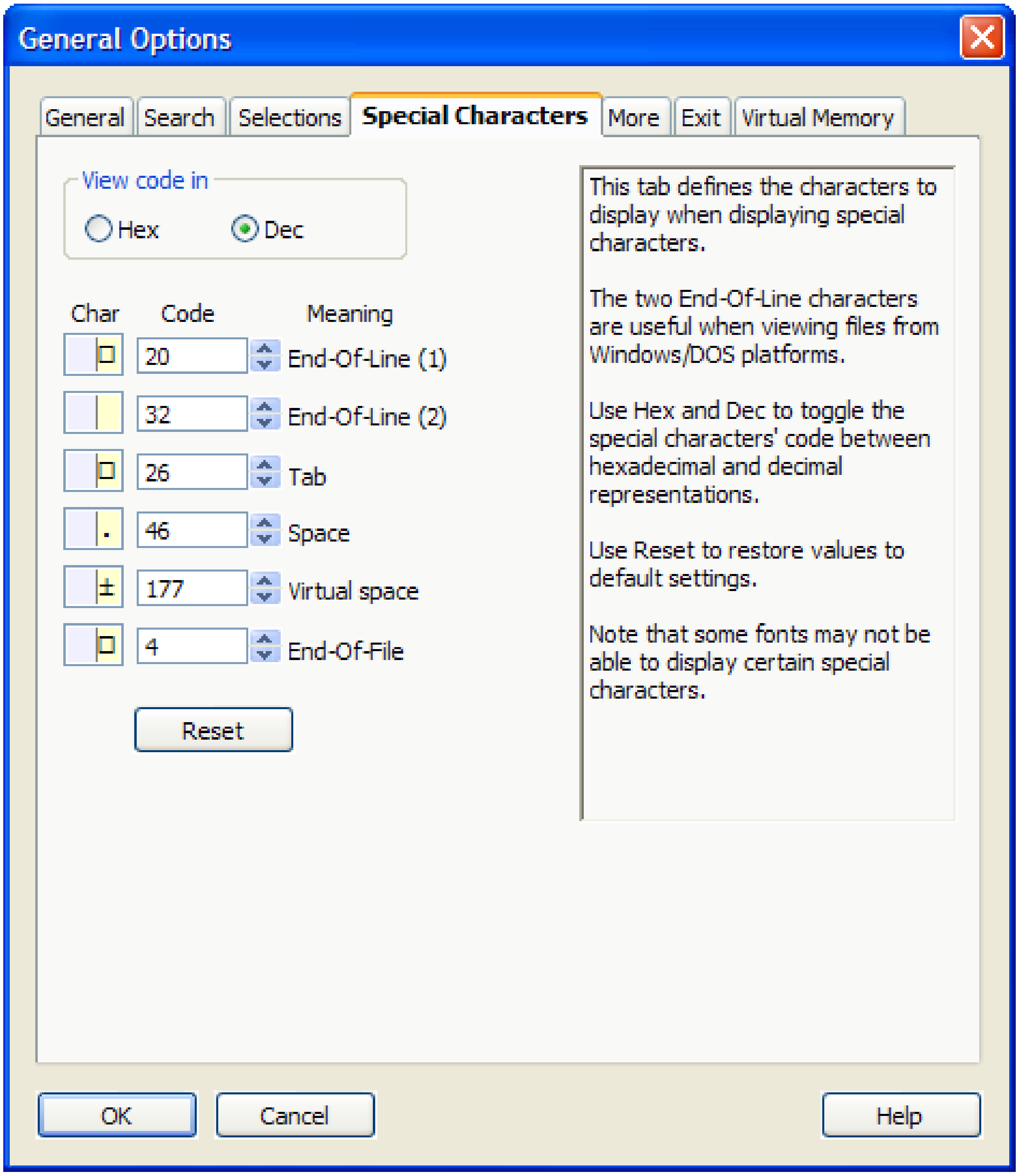
Activating view of special characters inserts characters into your file to show such items as tabs, spaces and line endings. Characters defined on the **Special Characters** tab are displayed instead of the original characters when the view options are selected.

Note

Viewing special characters is only available for ASCII files.

To access Special Characters options, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **Special Characters** tab, which is pictured below. See Viewing Special Characters for more information about these settings.

Figure 10.27. General Options: Special Characters Tab



View code in: Hex [✓ Dec]

Char	Code	Meaning
□	20	End-Of-Line (1)
	32	End-Of-Line (2)
□	26	Tab
.	46	Space
±	177	Virtual space
□	4	End-Of-File

This tab defines the characters to display when displaying special characters.

The two End-Of-Line characters are useful when viewing files from Windows/DOS platforms.

Use Hex and Dec to toggle the special characters' code between hexadecimal and decimal representations.

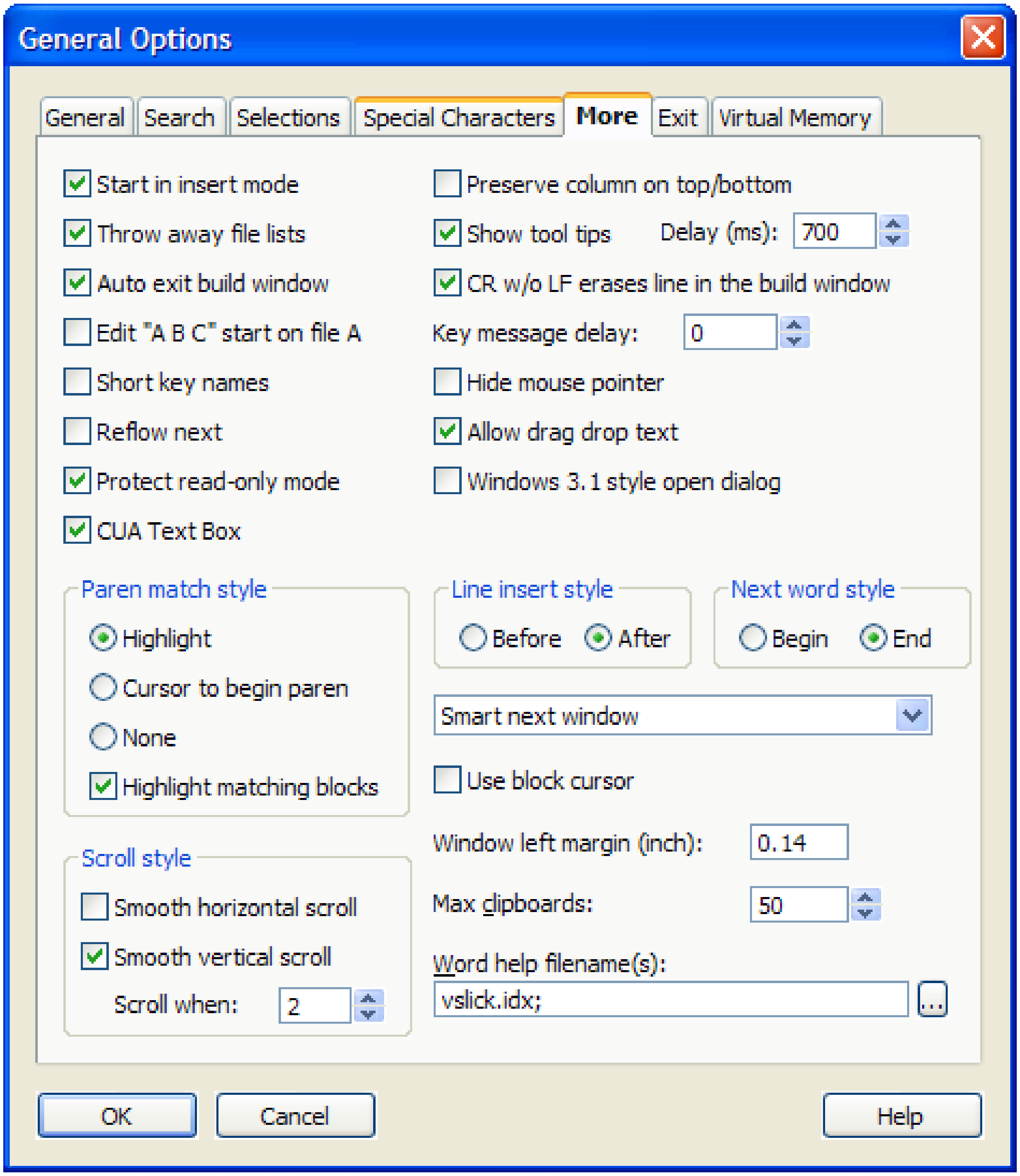
Use Reset to restore values to default settings.

Note that some fonts may not be able to display certain special characters.

More Tab

The **More** tab, pictured below, contains additional options that can be set for working with SlickEdit® Core. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **More** tab.

Figure 10.28. General Options: More Tab



General Options

General | Search | Selections | Special Characters | **More** | Exit | Virtual Memory

- [✓] Start in insert mode
- [✓] Throw away file lists
- [✓] Auto exit build window
- [ ] Edit "A B C" start on file A
- [ ] Short key names
- [ ] Reflow next
- [✓] Protect read-only mode
- [✓] CUA Text Box
- [ ] Preserve column on top/bottom
- [✓] Show tool tips   Delay (ms): 700
- [✓] CR w/o LF erases line in the build window
- Key message delay: 0
- [ ] Hide mouse pointer
- [✓] Allow drag drop text
- [ ] Windows 3.1 style open dialog

Paren match style
- [✓ Highlight]
- Cursor to begin paren
- None
- [✓] Highlight matching blocks

Line insert style: Before [✓ After]

Next word style: Begin [✓ End]

Smart next window

- [ ] Use block cursor

Scroll style
- [ ] Smooth horizontal scroll
- [✓] Smooth vertical scroll
- Scroll when: 2

Window left margin (inch): 0.14

Max clipboards: 50

Word help filename(s): vslick.idx;

OK | Cancel | Help

The following options are available:

- **Start in insert mode** - If selected, the editing mode is set to **insert** when the editor is invoked. Otherwise, the editing mode is set to **replace**.

- **Throw away file lists** - If selected, the modified File Manager file lists can be modified and closed without being prompted to save.
- **Auto exit build window** - If selected, the concurrent build window is automatically exited when the buffer is closed or when exiting the editor.
- **Edit "A B C" start on file A** - If selected, the first file opened becomes the active buffer.
- **Short key names** - If selected, key names in the MDI menu bar are condensed (non-CUA). For long CUA key names, clear this check box.
- **Reflow next** - If selected, the **reflow_paragraph** command places the cursor on the next paragraph after it has reformatted the current paragraph. Otherwise, the cursor is kept at the same location within the current paragraph.
- **Protect read-only mode** - If selected, the editor will not let you modify a file that is in read-only mode. The **save** command always prompts for a different output file name if the file is in read-only mode.
- **CUA text box** - If selected, the keys **Ctrl**+**X**, **Ctrl**+**C**, and **Ctrl**+**V** perform **cut**, **copy**, and **paste** commands respectively for a text box other than the command line. In addition, the dialog manager takes over the keys **Alt**+**A** through **Alt**+**Z** for selecting controls.

  ### Note

  Do not mark this check box if you want all of the keys to operate the same in a text box as they do in the command line and edit windows.

- **Paren match style** - This feature always uses fast brace matching. Select from the following options (the first three are mutually exclusive):
  - **Highlight** - When selected, typing a closing parenthesis temporarily block-selects the text within the parenthesis pair.
  - **Cursor to begin paren** - When selected, typing a closing parenthesis temporarily places the cursor on the matching begin parenthesis.
  - **None** - When selected, typing a closing parenthesis just inserts the close parenthesis.
  - **Highlight matching blocks** - When selected, the corresponding parenthesis, brace, bracket, or begin/end word pairs under the cursor are automatically highlighted.

  ### Tip

  To customize the highlighting color, go to **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting. Select the **Block Matching** screen element. To adjust the delay in milliseconds before the highlighting is updated, go to **Macro** → **Set Macro Variable** and modify the variable **def_match_paren_idle**. See Setting Colors for Screen

Elements and Setting Macro Variables for more information.

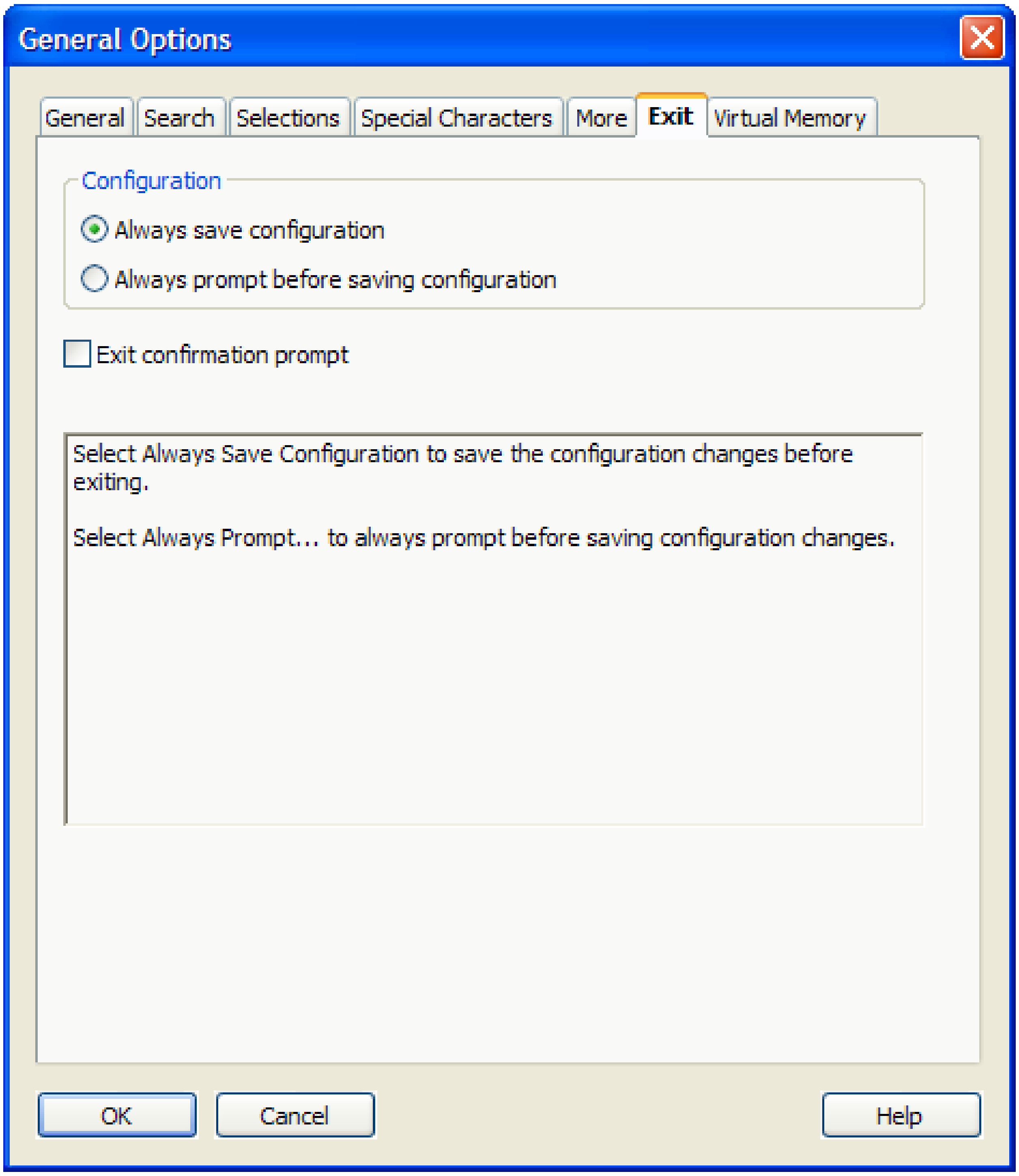
- **Scroll style -** Select from the following options:
  - **Smooth horizontal scroll** - When selected, this option specifies that the window should be scrolled column-by-column when the cursor moves out of view. When this option is deselected, the cursor will be centered and the text will be scrolled one-fourth the width of the window when the cursor moves out of view.
  - **Smooth vertical scroll -** When selected, this option specifies that the window should be scrolled line-by-line when the cursor moves out of view. When this option is deselected, the cursor will be centered and the text will be scrolled half the height of the window when the cursor moves out of view.
  - **Scroll when** - Specifies how close (in number of lines) the cursor may get to the top or bottom of the window before scrolling occurs. Does not affect horizontal scrolling.
- **Preserve column on top/bottom** - If selected, the **top_of_buffer** (**Ctrl**+**Home**) and **bottom_of_buffer** (**Ctrl**+**End**) commands do not change the column position unless already at the top or bottom of the buffer.
- **Show tool tips -** If selected, the pop-up tool tip Help messages are displayed when the mouse pointer rolls over a button.
- **Delay (ms)** - Specifies the delay in tenths of a second before tool tip messages are displayed.
- **Key message delay** - Selecting this option specifies the delay before a prefix key is displayed in tenths of a second. The prefix key is not displayed if the next key is pressed before the delay specified in this text box.
- **Hide mouse pointer** - Selecting this option hides the mouse pointer when typing. The mouse pointer is displayed when moving the mouse or when a dialog box is displayed.
- **Allow drag drop text -** If selected, selected text can be copied or moved by dragging and dropping the selected text using the left mouse button.
- **Windows 3.1 style open dialog -** (Windows only) When selected, a Windows 3.1-style Open dialog box is used to open and save files. This dialog does not support all the features of the default Open dialog (for example, encoding options are not supported).
- **Line insert style** - SlickEdit Core treats line selections differently than character selections. Line selections are pasted either above or below the current line, saving you from tediously positioning the cursor at the beginning or end of a line prior to pasting. When the style is set to **Before**, lines of text are inserted before the current line. When the style is set to **After** (the default), lines of text are inserted after the current line.
- **Next word style** - When the next word style is set to **Begin**, the **next_word** command (**Ctrl**+**Right**) places the cursor on the beginning of the next word. When the next word style is set to **End**, the cursor is placed at the end of the next word.

- **Smart next window** - (Not available in SlickEdit Core.) Use this combo box to select from the following different windowing styles:
  - **Smart next window** - This is the default style. It allows you to press **Ctrl**+**Tab** (**next_window** command) to switch the focus between the two most frequently used open editor windows, rather than always going to the next window. Press **Ctrl**+**Shift**+**Tab** (**prev_window** command) to switch between all open editor windows. This style is similar to how **Ctrl**+**Tab** and **Ctrl**+**Shift**+**Tab** work in other Windows MDI applications, like Visual Studio.
  - **Reorder windows** - If selected, activating an existing window reinserts the window after the current window. Neither **Ctrl**+**Tab** nor **Ctrl**+**Shift**+**Tab** reorders the windows. This option is very good for switching between more than two files, but it is not the Windows standard (which means you're probably not used to it). It's similar to the way SlickEdit Core reorders buffers.
  - **No window reordering** - If selected, newly opened windows are inserted after the current window, like in all settings. Activating an existing window, pressing **Ctrl**+**Tab**, or pressing **Ctrl**+**Shift**+**Tab** does not reorder windows. This option is best if you like to memorize the hot key numbers on the Window menu (for example, **Alt**+**W,1** because it attempts to keep the hot key numbers the same.
- **Use block cursor** - If selected, a text mode-style cursor is used instead of a vertical cursor.
- **Window left margin (inch) -** If selected, this specifies the space between the left edge of the window and the editor text in inches. This value has no effect when there are bitmaps displayed in the left margin, since more space is necessary.
- **Max clipboards** - Specifies the maximum number of clipboards saved. By default, a stack of your last 50 clipboards are kept, any one of which can be pasted with **Ctrl**+**Shift**+**V**.
- **Word help filename** - Specifies the Word Help file names used by the **wh** command (**Help** → **F1 Index Help** or **Ctrl**+**F1**), **wh2** command (**Ctrl**+**F2**), and **wh3** command.

Exit Tab

The **Exit** tab contains settings that occur when exiting the editor. To access these settings, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **Exit** tab.

Figure 10.29. General Options: Exit Tab



Configuration

[✓ Always save configuration]

Always prompt before saving configuration

☐ Exit confirmation prompt

Select Always Save Configuration to save the configuration changes before exiting.

Select Always Prompt... to always prompt before saving configuration changes.

The following options are available on the **Exit** tab:

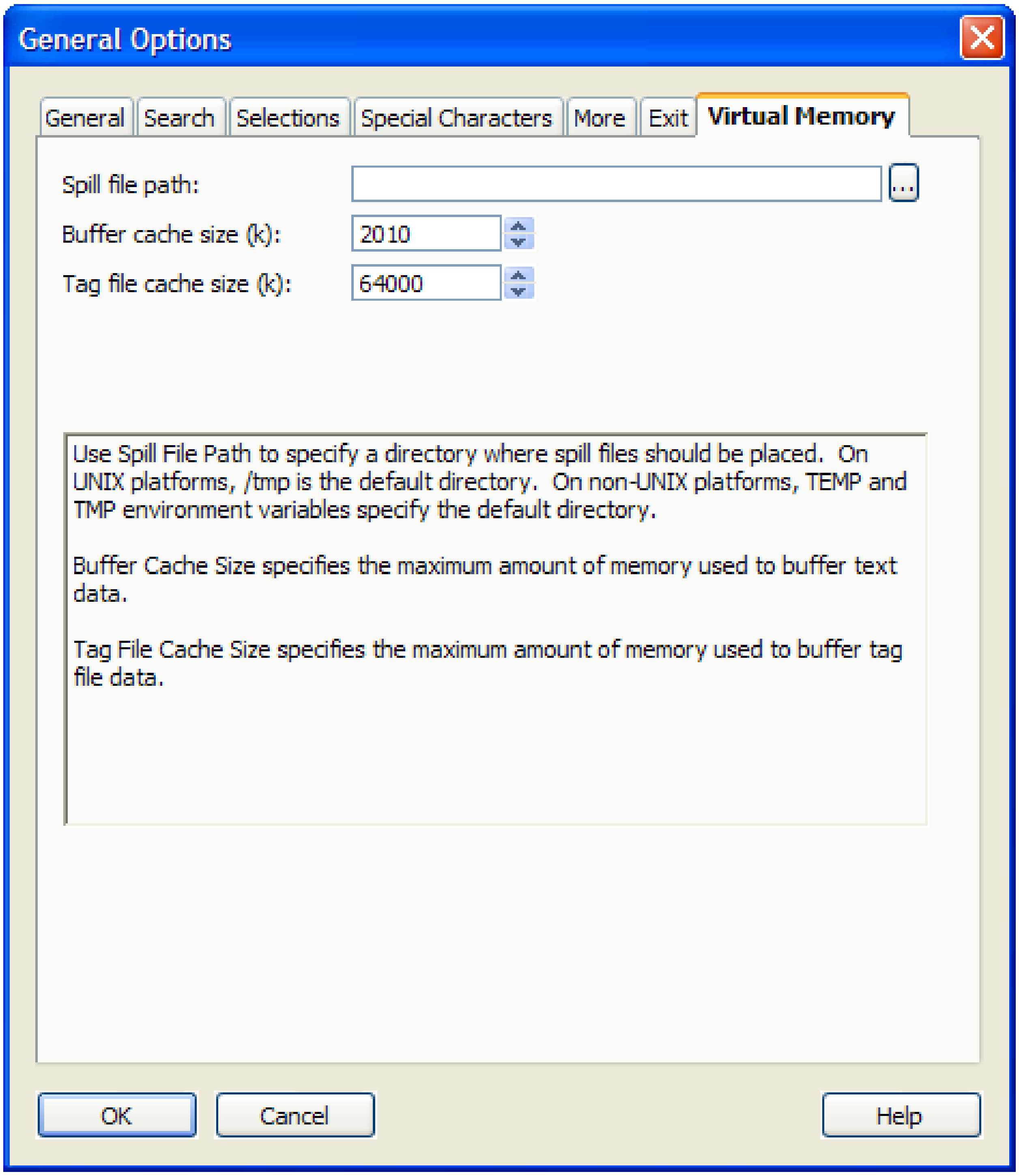
- **Always save configuration** - If selected, configuration changes are saved without prompting.
- **Always prompt before saving configuration** - Select this option to always receive a prompt before saving changes that you make to the configuration of the software.

- **Exit confirmation prompt** - If selected, you will always be prompted when exiting the editor.

Virtual Memory Tab

To access virtual memory options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the **Virtual Memory** tab.

Figure 10.30. General Options: Virtual Memory Tab



Spill file path:

Buffer cache size (k): 2010

Tag file cache size (k): 64000

Use Spill File Path to specify a directory where spill files should be placed. On UNIX platforms, /tmp is the default directory. On non-UNIX platforms, TEMP and TMP environment variables specify the default directory.

Buffer Cache Size specifies the maximum amount of memory used to buffer text data.

Tag File Cache Size specifies the maximum amount of memory used to buffer tag file data.

The following options are available:

- **Spill file path** - This text box specifies a directory where spill files and temporary files should be placed. On Windows, this defaults to the directory specified the **TEMP** environment variable. If it does not exist, the directory specified by the **TMP** environment variable is used. On UNIX, this defaults to the directory specified by the **TMP** environment variable.

- **Buffer cache size** - The value in this field, specifies the maximum amount of memory used to store text buffer data in kilobytes. A value that is less than zero specifies all available memory.

Caution

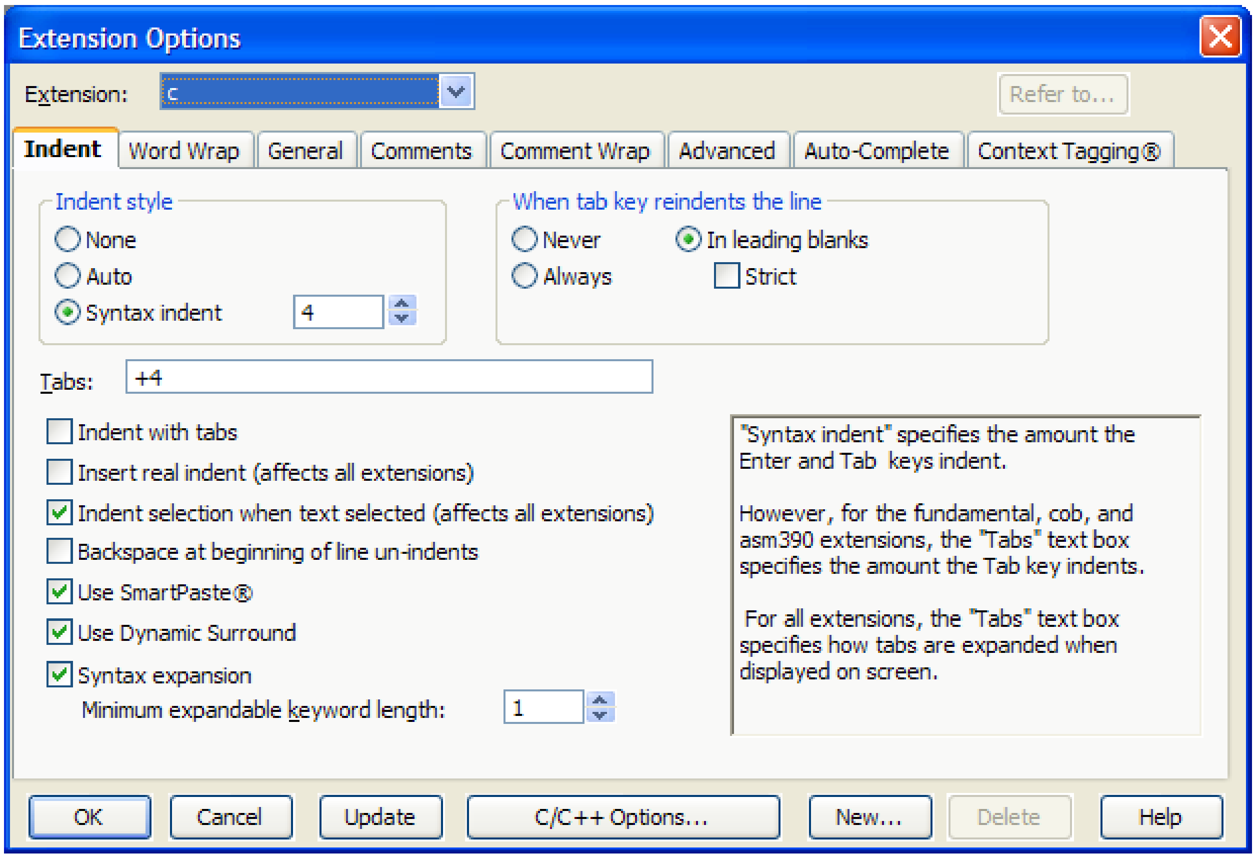
If the operating system starts the swapping process before the cache is full, performance might be degraded. The cache size must be smaller than the amount of actual memory available.

- **Tag file cache size** - You can improve tagging performance by adjusting the tag file cache size to better match the size of your tag files. Generally, a tag file cache size that matches the total size of the tag files being used will provide the best performance. For example, if the tag files for your source code and libraries adds up to 100 MB, you should set your cache size to 100 MB. You may have to experiment to find the optimum value. Use the recommendations below as a guide. Note that this is the same option as found on the Context Tagging Options Dialog. For more information about tagging, see Building and Managing Tag Files.
  - Minimum – 8 MB
  - Default – 64 MB
  - Ideal – Sum of tag file sizes
  - Maximum – 25% of physical system memory

Extension Options Dialog

The behavior of the editor can be customized for files based on specific language extensions. The Extension Options dialog box (shown below) contains the settings that can be configured for file extensions. To access this dialog, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. You can also display the dialog by using the **setupext** command.

Figure 10.31. Extension Options Dialog



Extension: c

Indent style
None
Auto
[✓ Syntax indent] 4

When tab key reindents the line
Never
[✓ In leading blanks]
Always
Strict

Tabs: +4

- [ ] Indent with tabs
- [ ] Insert real indent (affects all extensions)
- [✓] Indent selection when text selected (affects all extensions)
- [ ] Backspace at beginning of line un-indents
- [✓] Use SmartPaste®
- [✓] Use Dynamic Surround
- [✓] Syntax expansion

Minimum expandable keyword length: 1

"Syntax indent" specifies the amount the Enter and Tab keys indent.

However, for the fundamental, cob, and asm390 extensions, the "Tabs" text box specifies the amount the Tab key indents.

For all extensions, the "Tabs" text box specifies how tabs are expanded when displayed on screen.

General settings on this dialog box are described below (see Extension Options - General Dialog Settings). Other options are categorized into the following tabs. Click on an item to go to that section in the documentation:

- Indent Tab
- Word Wrap Tab
- General Tab
- Comments Tab
- Comment Wrap Tab
- Advanced Tab
- Auto-Complete Tab
- Context Tagging Tab

Extension Options - General Dialog Settings

The following fields and buttons are available on the Extension Options dialog:

- **Extension** - The Extension drop-down list (located above the tabs) contains a list of pre-loaded extensions that support Extension Options. To configure Extension Options for an extension that is not in the list, you must first load or create a file with that extension.

Tip

Before configuring any of the Extension Options, always make sure the **Extension** drop-down list reflects the extension you wish to affect.

- **Refer to** - When an extension refers to another extension, both extensions operate exactly the same. That is, all Context Tagging®, template editing, word processing options, and all other extension options are the same. In addition, modifying the extension option information for either extension updates both extensions. For example, by default, the `.h` and `.cpp` extensions refer to the `.c` file extension. Modify the `.h` or `.cpp` extension setup to modify the extension setup for all three extensions. In addition, the `.h` and `.cpp` extensions use the same Context Tagging settings as the `.c` extension.

  To have the setup data for one extension refer to another extension, click the **Refer to** button (located at the top right corner of the Extension Options dialog). This button is not available if other extensions already refer to this one. **Refer to** is also available on the New Extension dialog box to set when adding a new extension.

- **Update** - To update the extension setup, click this button (located at the bottom of the Extension Options dialog). This is useful when modifying the options for more than one extension, as it keeps the Extension Options dialog box displayed.

- **Options** - To access formatting options such as brace styles, indentation, and other code style settings, click the **Options** button (located at the bottom of the Extension Options dialog). This will display a Formatting Options dialog box that contains options specific to the extension that is selected. Each dialog is described in the appropriate section in the chapter Chapter 7, *Language-Specific Editing*.

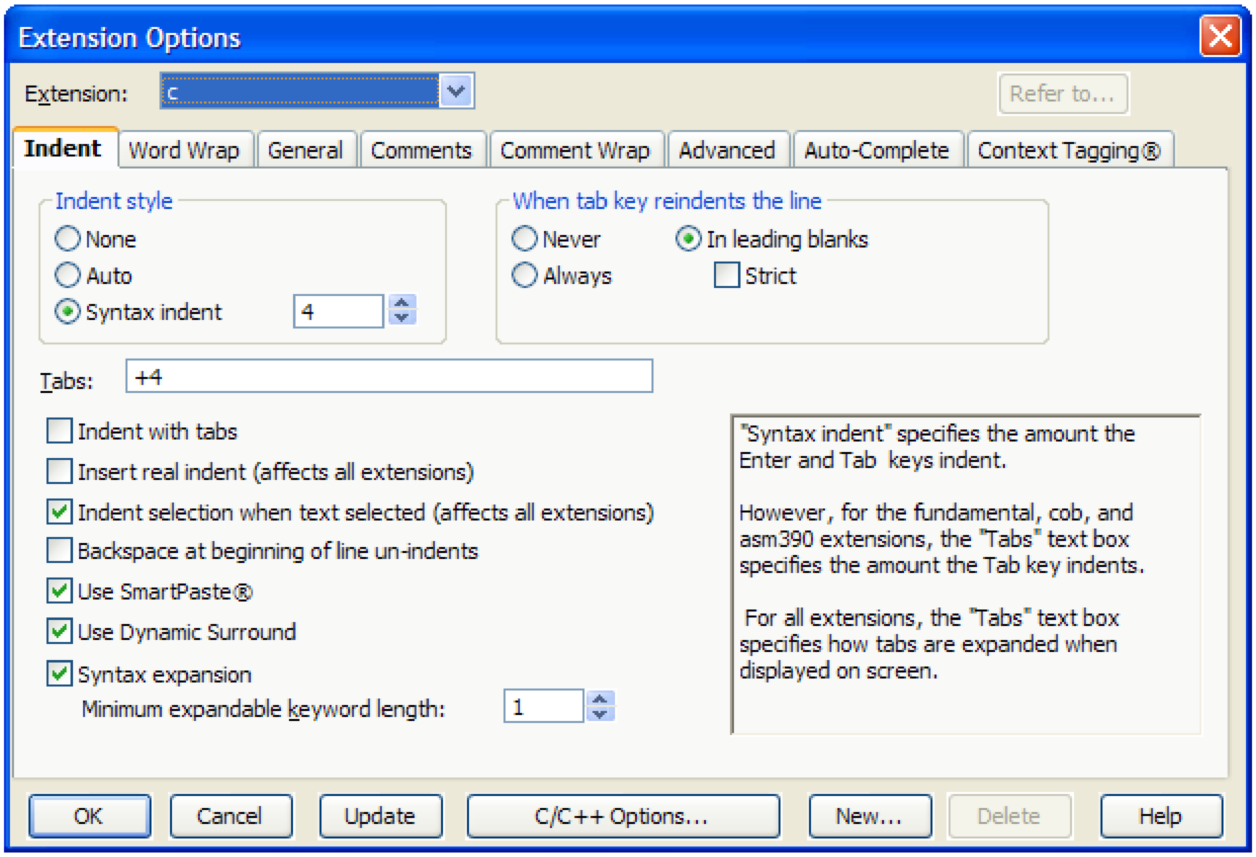
- **New** - To create a new extension and assign extension-specific options to it, including **Refer to**, click the **New** button (located at the bottom of the Extension Options dialog). The New Extension dialog box is displayed. See Creating a New Extension for more information.

- **Delete** - To delete the selected file extension's setup information, click the **Delete** button (located at the bottom of the Extension Options dialog). Note that the Fundamental extension setup information cannot be deleted. An extension such as C, that has other extensions (such as H, CPP, and CXX) that refer to it, cannot be deleted until all of the extensions that refer to it are deleted.

Indent Tab

You can set the indent configurations for specific file types. To access these settings, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Indent** tab. For more information about working with the features controlled by these options, see Syntax Indent and SmartPaste®.

Figure 10.32. Extension Options: Indent Tab



Indent style: None [✓ Syntax indent] Auto; Syntax indent: 4

When tab key reindents the line: Never, Always [✓ In leading blanks]; ☐ Strict

Tabs: +4

☐ Indent with tabs
☐ Insert real indent (affects all extensions)
☑ Indent selection when text selected (affects all extensions)
☐ Backspace at beginning of line un-indents
☑ Use SmartPaste®
☑ Use Dynamic Surround
☑ Syntax expansion
Minimum expandable keyword length: 1

"Syntax indent" specifies the amount the Enter and Tab keys indent.

However, for the fundamental, cob, and asm390 extensions, the "Tabs" text box specifies the amount the Tab key indents.

For all extensions, the "Tabs" text box specifies how tabs are expanded when displayed on screen.

The following options and settings are available:

- **Indent style** - Select from the following indent styles:
  - **None** - When this option is selected, the **Enter** key will put the cursor at the beginning of the line.
  - **Auto** - When this option is selected, the **Enter** key indents according to the previous line.
  - **Syntax indent** - When this option is selected, the **Enter** key indents according to language syntax. The value in the text box specifies the amount to indent for each level. See Syntax Indent for more information.
- **When tab key reindents the line** - These options specify that the **Tab** key be used to beautify or reindent the current line. Select from the following settings:
  - **Never** - When this option is selected, pressing **Tab** will never reindent the line. It will indent to the next tab stop.
  - **Always** - Pressing the **Tab** key in any column will reindent the current line.
  - **In leading blanks** - Pressing the **Tab** key will reindent the line if the cursor is positioned within the leading white space of the line. Otherwise it will indent to the next tab stop. This option is further controlled by the **Strict** check box.
  - **Strict** - Strict only applies to the **In leading blanks** option. When this option is selected, it reindents

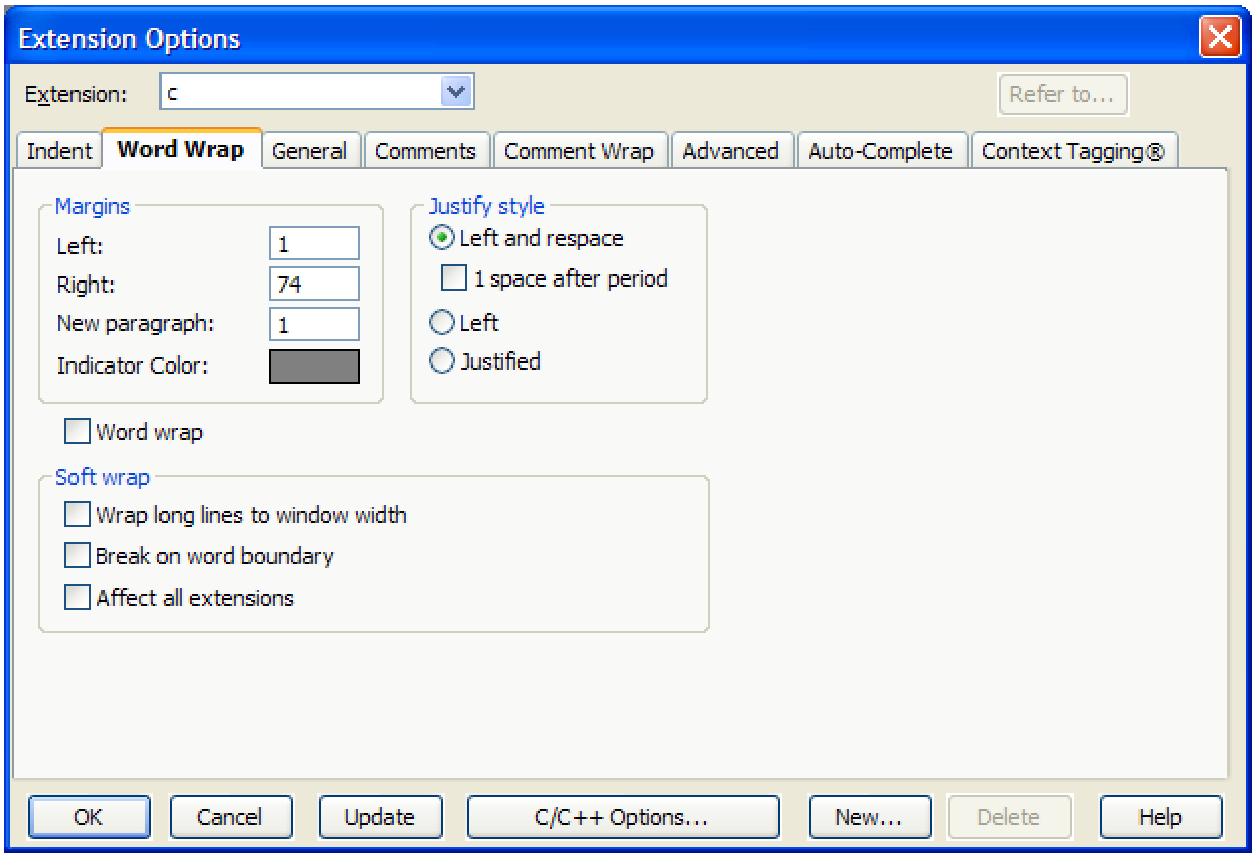
the line only if the cursor position is before the intended indent location; otherwise, it will insert an additional tab stop. When this option is deselected, it reindents the line when the cursor is located on the leading whitespace, regardless of whether the column is before or after the intended indent location.

- **Tabs** - Set tabs in increments of a specific value or at specific column positions. To specify an increment of three, enter **3** in the text box. To specify columns, for example, enter **1 8 27 44**, to specify tab stops that are not an increment of a specific value.
- **Indent with tabs** - Determines whether **Tab** key, **Enter** key, and paragraph reformat commands indent with spaces or tabs. See Indenting with Tabs for more information.
- **Insert real indent (affects all extensions)** - When this option is selected, the **Enter** key inserts real spaces or tabs representing the indent instead of virtual spaces. This check box affects all extensions when it is selected. This option allows the function for the **End** key on the keyboard to place the cursor after blank text where new text can be typed.
- **Indent selection when text selected (affects all extensions)** - When this option is selected, it affects all of the extensions, and pressing **Tab** or **Shift**+**Tab** indents or un-indents the selected text.
- **Backspace at beginning of line un-indents** - When this option is selected and the cursor is located before the first non-blank character, pressing the **Backspace** key un-indents the current line by one indent level. See also Setting the Backspace Unindent Style.
- **Use SmartPaste®** - Specifies whether copied or pasted text should be reindented according to what the editor thinks is the correct indent level. See SmartPaste for more information.
- **Use Dynamic Surround** - Provides the ability to surround a group of statements with a block statement, indented to the correct levels according to your indent settings on this tab. In order for Dynamic Surround to work, the option **Syntax Expansion** must also be selected (see below). See Dynamic Surround for more information on how to use this feature.
- **Syntax expansion** - Activates the Syntax Expansion feature. When this option is selected, pressing the spacebar after typing a keyword such as **if** or **for** will cause that syntax element to be expanded, inserting the rest of the **if** or **for** statement. Alternately, you can bind a space command to a key other than the spacebar. See Syntax Expansion for more information on using this feature.
- **Minimum expandable keyword length** - Sets the minimum length for a keyword that will trigger Syntax Expansion. For example, if this is set to **3**, then two-letter keywords such as **if** will not be expanded.

Word Wrap Tab

The **Word Wrap** tab contains options for controlling how text is wrapped. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Word Wrap** tab.

Figure 10.33. Extension Options: Word Wrap Tab



Extension: c

Margins
Left: 1
Right: 74
New paragraph: 1
Indicator Color: ■

Justify style
[✓ Left and respace]
☐ 1 space after period
○ Left
○ Justified

☐ Word wrap

Soft wrap
☐ Wrap long lines to window width
☐ Break on word boundary
☐ Affect all extensions

The following settings are available:

- **Margins** - Sets the left, right, and new paragraph margins. Specify the column number at which each margin should begin. Click the colored box next to the **Indicator Color** label to set the color of the margin indicator. The margin indicator will only appear if the **Word wrap** option is selected, which activates word wrapping.
- **Justify style** - Select from the following justification styles:
  - **Left and respace** - Left justification with space character reformatting. One space is placed between words except after the punctuation characters (period, ?, and !) that get two spaces. To have only one space after the period, question mark, and exclamation point punctuation characters, turn on **1 space after period**.
  - **Left** - Left justification with respect for space characters between words. This setting requires the Save options to be set such that trailing spaces are not stripped when a buffer is saved. See Save Tab for more information on save options.
  - **Justified** - Full justification. Left and right edges of text will align exactly at margins.
- **Word wrap** - This option activates/deactivates word wrapping. When selected, the editor keeps the cursor within the margins when entering text, moving the cursor, and deleting characters.
- **Soft wrap** - Soft Wrap makes it easy to view long lines of code without scrolling. Each line is wrapped as though a carriage return was inserted, however, the file itself is not modified. The options are as fol-

lows:

- **Wrap long lines to window width -** This option activates Soft Wrap. A curved arrow is displayed at the end of each line, along the right-hand border of the edit pane, indicating that the text continues on the next line. The horizontal scrollbar disappears as it is no longer needed.
- **Break on word boundary -** Breaks the text at the end of the line so that words are kept whole. This makes for easier reading, especially in text files.
- **Affects all extensions -** When selected, this option applies the Soft Wrap configuration that you want on all extensions without having to manually set up each one. For example, if you want Soft Wrap turned on for all extension types, complete the following steps:

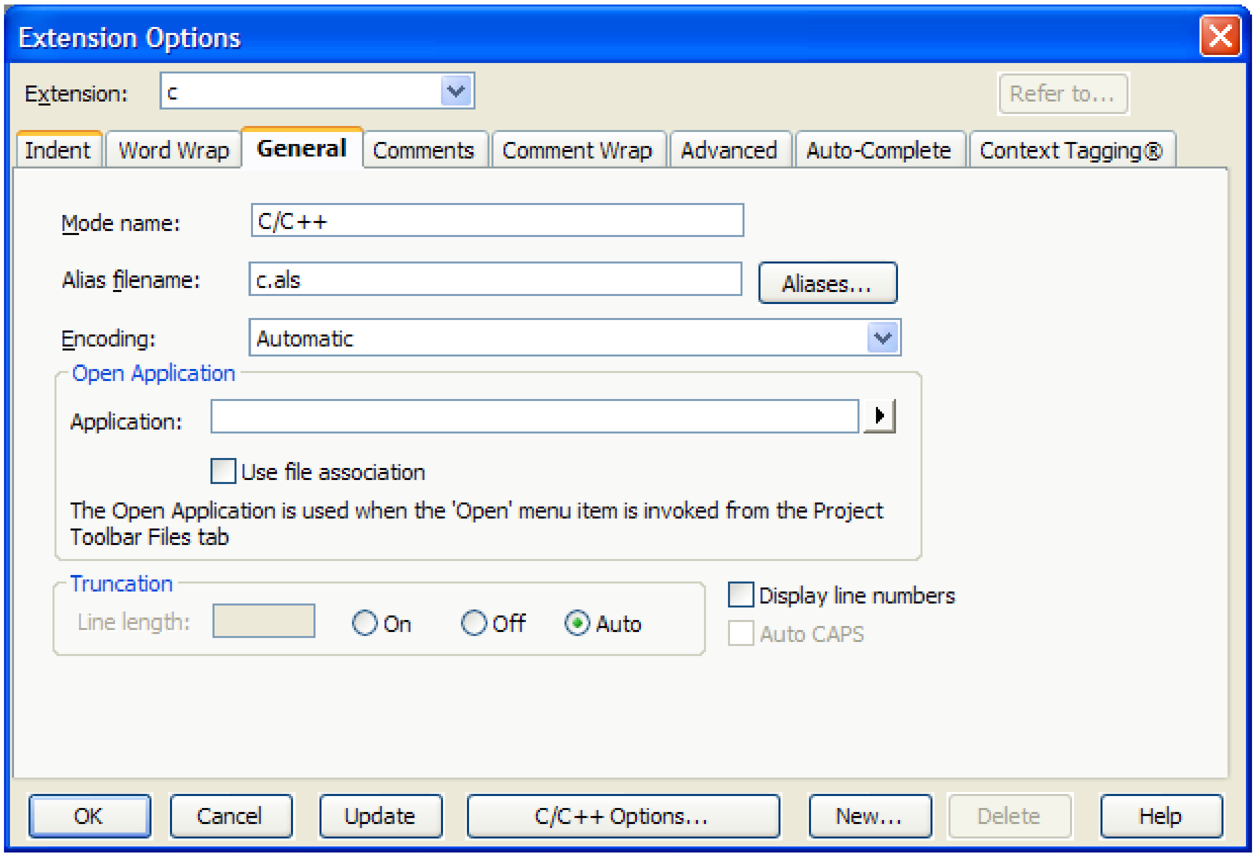
  1. Mark **Wrap long lines to window width**.
  2. Mark **Break on word boundary**.
  3. Then mark **Affects all extensions** and click either **Update** or **OK**. Each time that you open a file, Soft Wrap is automatically turned on.

  To make this feature unavailable for all extensions, clear the **Wrap long lines to window width** check box, then click either **Update** or **OK**.

General Tab

The **General** tab on the file extensions tab provides general and Alias options. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **General** tab.

Figure 10.34. Extension Options: General Tab



The following options are available:

- **Mode name** - Allows you to enter a more meaningful name for this extension setup. Define a mode name here for the **Format** → **Select Mode** menu item to work well. See Language Editing Modes for more information.
- **Alias filename** - An alias defines a snippet of text that is inserted when the alias is expanded. Each extension can have one alias file, allowing aliases to be defined that do not affect other extensions. An example would be a comment header that is used a lot. See Extension-Specific Aliases for more information.
- **Aliases** - Click the **Aliases** button to easily define extension-specific aliases. See Extension-Specific Aliases for more information.
- **Encoding** - Each extension can have its own encoding specification. Both the extension-specific and global settings are overridden if an encoding is previously specified in the Open dialog box. The encoding used to override default encoding settings is recorded and this setting is used the next time the same file is opened. This provides per-file encoding support. If the extension-specific encoding is set to **Default**, then the global setting defined in the File Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting and select the **Load** tab) is used. Note that Unicode support is required to work with encodings. For more information about working with encodings and Unicode, see Encoding.
- **Truncation** - When **On** or **Auto** is selected, all editor operations prevent the data from the right of the

truncation line length to be moved or to be modified. For example, search and replace operations do not find data to the right of the truncating line length. In addition, when a replace occurs, the data to the right of the truncation line length will not move.

Set this to **Auto** for the editor to determine the truncation line length based on the record format of the file. For files that do not have a record format, the truncation length is turned off. For example, when **Auto** is on and the record width of the file is 80, 72 is used as the truncation line length (the record length minus eight).

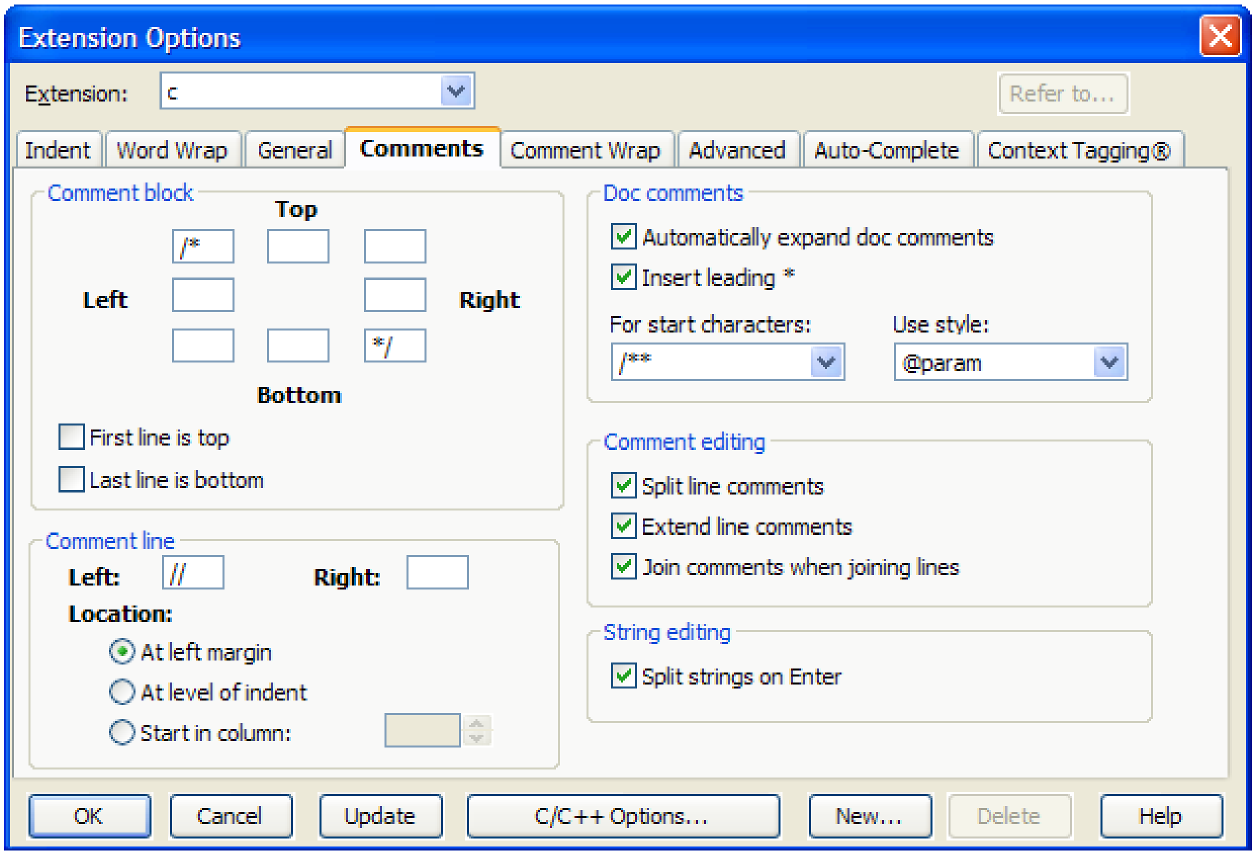
- **Display line numbers** - When this option is selected, line numbers are displayed for any file with the selected extension. To toggle the display of line numbers on a per-document basis, from the main menu, click **View** → **Line Numbers**, or use the **view_line_numbers_toggle** command on the SlickEdit Core command line.
- **Auto CAPS** - If selected, and a file is opened that does not contain any lowercase characters, caps mode is turned on (not the same as caps lock). When caps mode is on, all text is inserted in uppercase. This feature is intended to emulate ISPF.

Comments Tab

The **Comments** tab provides options to control the creation of block and line comments. To comment out selected lines, select text in the editor and then click **Format** → **Comment Block** or **Format** → **Comment Lines** (**box** and **comment** commands, respectively). These operations will use the matching comment style to comment out all text on the lines containing the selection. A Comment Block will surround multiple lines with a single block comment. Comment Lines will comment out each line in the selection with a line comment. See Commenting for more information.

To access comment options, from the main menu click **Format** → **Comment Setup** (**comment_setup** command). Alternatively, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Comments** tab.

Figure 10.35. Extension Options: Comments Tab


Extension Options

Extension: c

Refer to...

Indent | Word Wrap | General | Comments | Comment Wrap | Advanced | Auto-Complete | Context Tagging®

Comment block

	Top		
Left	/*		
			Right
		*/	
	Bottom		

- [ ] First line is top
- [ ] Last line is bottom

Comment line

Left: //   Right:

Location:

- [✓ At left margin]
- At level of indent
- Start in column:

Doc comments

- [✓] Automatically expand doc comments
- [✓] Insert leading *

For start characters: /**   Use style: @param

Comment editing

- [✓] Split line comments
- [✓] Extend line comments
- [✓] Join comments when joining lines

String editing

- [✓] Split strings on Enter

Comment Block

These settings are used when you comment out a selected block of text (**Format** → **Comment Block** or **box** command). SlickEdit® Core provides eight fields to specify the characters used in your commenting style. If you want to apply a comment with no additional decoration, fill in the upper-left and lower-right fields with the characters to begin and end a block comment. To draw a box around the comment, fill in additional characters in the other fields. For example, you might put an asterisk in each of the other fields to draw a box of asterisks around the block comment.

SlickEdit Core interprets the contents of these fields literally. If you want the asterisks on the left-hand side to line up, you need to put a space before the asterisk in the left, middle field. Likewise you would put a space before the asterisk and slash in the field containing the end of comment characters. Trailing spaces are ignored on the right-hand fields.

To illustrate, the following code sample is a selection:

```
if (!enabled) {
    tabState = TIS_DISABLED;
}
```

From the main menu, click **Format** → **Comment Block**, and the selection is commented out as follows:

```
/*
```

```
                  if (!enabled) {
                     tabState = TIS_DISABLED;
                  }
*/
```

Select from the following comment block options:

- **First line is top -** When this option is selected, the first line of the text selection is used as the first line of the comment. The top border is not drawn. Otherwise the open comment characters will appear on their own line.

  If this option is selected for the preceding code sample, the comment will instead be formatted as follows:

  ```
  /*              if (!enabled) {
                     tabState = TIS_DISABLED;
                  }
  */
  ```

- **Last line is bottom -** When this option is selected, the last line of the text selection is used as the last line of the comment. The bottom border is not drawn. Otherwise the open comment characters appear on their own line.

  Using the same example, if this option is selected, the comment will be formatted as follows:

  ```
  /*
                  if (!enabled) {
                     tabState = TIS_DISABLED;
                  }                           */
  ```

Comment Line

These settings are used when you comment out selected lines (**Format** → **Comment Lines** or **comment** command).

- **Left** and **Right** - Characters that you specify in these boxes are literally inserted to the left and right of the text on each line of the selection when you use SlickEdit® Core to create a line comment. The placement of the **Left** characters can be controlled through the **Location** options below. Characters specified in the **Right** box are placed and aligned vertically at the end of the longest line of text in the selection. For example, if the **Left** and **Right** boxes both contain the characters ***//***, clicking **Format** → **Comment Line** comments out the example code as follows:

  ```
  //              if (!enabled) {            //
  //                 tabState = TIS_DISABLED;//
  //              }                          //
  ```

- **Location** - Mutually exclusive location options control where characters specified in the **Left** box are placed:

- **At left margin** - Places characters flush against the left margin of the editor window, as shown in the previous example. The indent levels are not changed. This provides better visibility for your comments and a way to clearly see the indent level relative to lines that are not commented out.
- **At level of indent** - Places and aligns characters vertically at the current indent level. For example:

```
//if (!enabled) {
//   tabState = TIS_DISABLED;
//}
```

- **Start in column** - Specifies in which column to start the comment for a line selection. This is useful for column-oriented languages such as COBOL. Type or use the spin box to select the desired column number. The left comment characters are placed at the specified column.

Doc Comments

Select from the following options:

- **Automatically expand doc comments** - When this option is selected, SlickEdit® Core automatically inserts a skeleton doc comment when you type comment start characters and then press **Enter** on a line directly above a function, class, or variable. The type of skeleton that is inserted is based on your start characters and style settings (specified in the **For start characters** and **Use style** boxes).

Note

In C#, you do not need to press **Enter**, as the skeleton comment is inserted after you type the third slash.

- **Insert leading *** - If selected, when you press **Enter** inside a doc comment, a leading asterisk is automatically inserted on the next line. For example:

```
/**
 * This is my comment.[CURSOR HERE]
 */
```

Pressing **Enter** will result in:

```
/**
 * This is my comment.
 * [CURSOR HERE]
 */
```

- **For start characters** - Use this box to specify the comment start characters that will trigger the style of reference tags that are automatically inserted as part of the doc comment skeleton. The characters selected here use the reference tag style specified in the **Use style** box. For comments formatted in

Javadoc, select **/****. For XMLdoc, select **///**. For Doxygen, select **/*!** or **//!**. See Doc Comment Examples for more information.

- **Use style** - Select the tag style to use for the corresponding start characters. This tag style is used when SlickEdit Core creates skeleton doc comments beginning with the matching start characters. For comments formatted in Javadoc, select the **@param** style. For XMLdoc, select the **<param>** style. For Doxygen, select the **\param** style. You can click through the start characters, assigning each one with a particular style and the settings will be remembered. See Doc Comment Examples for more information.

Comment Editing

The following options control comment editing behaviors. These options will be unavailable for non-applicable extensions.

- **Split line comments** - If selected, when you press **Enter** in the middle of a line comment, a new line comment will automatically be started on the new line. For example:

  ```
  // The quick brown fox [CURSOR_HERE]jumped over the lazy dog.
  ```

  Pressing **Enter** will result in:

  ```
  // The quick brown fox
  // [CURSOR_HERE]jumped over the lazy dog.
  ```

- **Extend line comments** - If selected, when you press **Enter** at the end of a line containing a line comment, and there is also an aligned line comment on the line before or after the current line, a new line comment will automatically be started on the new line. For example:

  ```
  // The quick brown fox
  // jumped over the lazy dog.[CURSOR_HERE]
  ```

  Pressing **Enter** will result in:

  ```
  // The quick brown fox
  // jumped over the lazy dog.
  // [CURSOR_HERE]
  ```

- **Join comments when joining lines** - If selected, when you press **Delete** at the end of a line containing a line comment to join the current line with the next line, and the next line is also a line comment, the line comment characters will automatically be deleted. For example:

  ```
  // The quick brown fox [CURSOR_HERE]
  // jumped over the lazy dog.
  ```

  Pressing **Delete** will result in:

```
 // The quick brown fox[CURSOR_HERE] jumped over the lazy dog.
```

String Editing

If **Split strings on Enter** is selected, when you press **Enter** to split a line when the cursor is inside of a string, the closing and opening quotes and, if necessary, operators, will automatically be inserted, and the string will be aligned with the original string. For example:

```
String x = "The quick brown fox [CURSOR_HERE]jumped over the lazy dog.";
```

Pressing **Enter** will result in:

```
String x = "The quick brown fox "+
           "[CURSOR_HERE]jumped over the lazy dog.";
```

Comment Wrap Tab

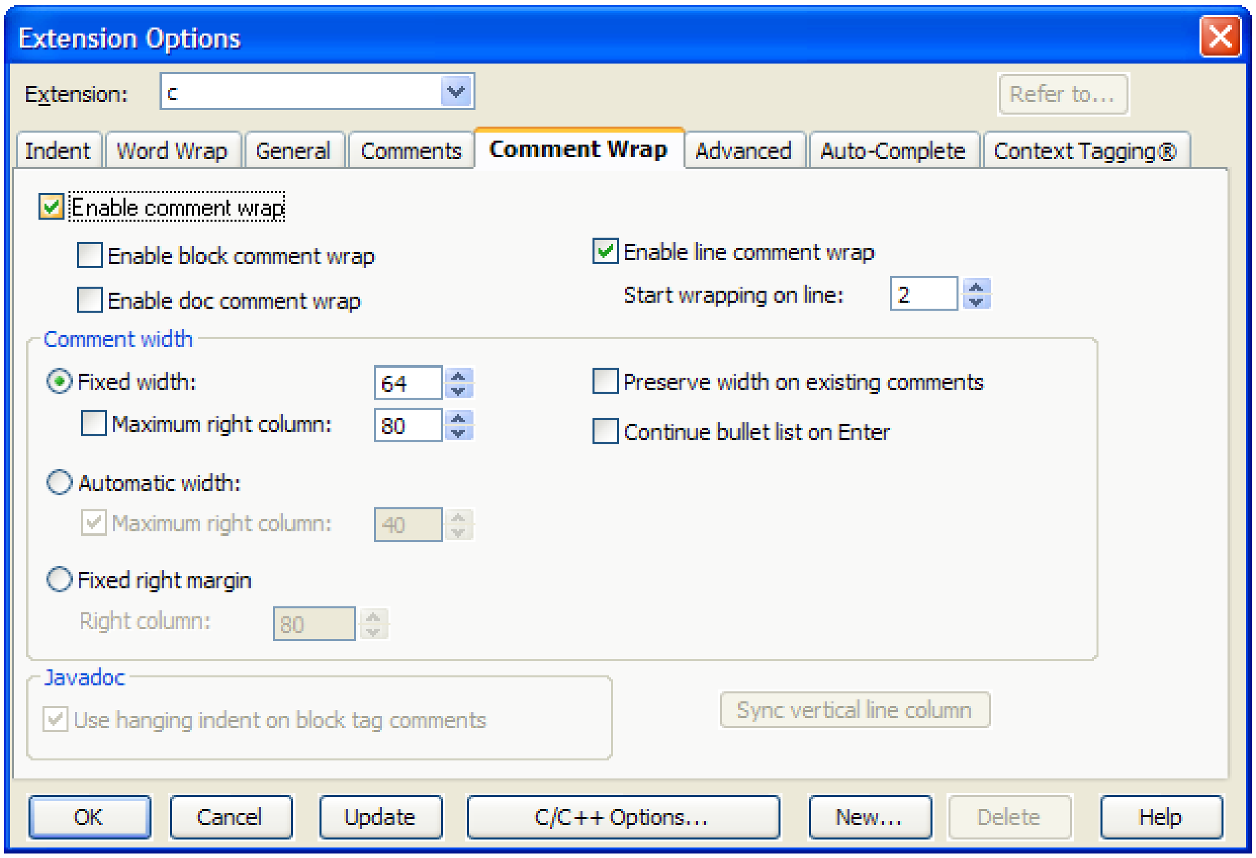
Comment wrapping options can be configured for C, C++, C#, Java, and Slick-C® files. These options are currently unavailable for other languages. Use the **Comment Wrap** tab to activate comment wrapping and configure options for how block, line, and doc comments are wrapped.

Tip

After configuring comment wrap settings, you can use the Reflow Comment dialog to reflow block comments, paragraphs, or a selection of the current file. See Reflowing Comments.

To access the **Comment Wrap** tab, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, make sure the extension you want to work with is selected in the **Extension** box, then select the **Comment Wrap** tab.

Figure 10.36. Extension Options: Comment Wrap Tab



Extension: c

✓ Enable comment wrap

☐ Enable block comment wrap

☐ Enable doc comment wrap

✓ Enable line comment wrap

Start wrapping on line: 2

Comment width

● Fixed width: 64

☐ Maximum right column: 80

○ Automatic width:

✓ Maximum right column: 40

○ Fixed right margin

Right column: 80

☐ Preserve width on existing comments

☐ Continue bullet list on Enter

Javadoc

✓ Use hanging indent on block tag comments

The following options are available:

- **Enable comment wrap** - When selected, comments are allowed to be wrapped. You must still specify the type of comments that you want wrapped by selecting one or more of the **Enable** options for block, line, and doc comments.
  - **Start wrapping on line** - This setting pertains to line comments only. Make sure line comment wrapping is turned on, then type or select the number of consecutive line comments that must be present before wrapping is activated. If your code contains many one line descriptive comments, you may want to set this to **2** or more so that comment wrapping will not affect these short line comments.
- **Comment width** - There are three types of width settings for comments:
  - **Fixed width** - If selected, comments are formatted to the specified width. This is useful since comments are typically indented with the corresponding code. This option maintains the original left margin of the comment and adjusts the right margin to meet the target width.

    If **Maximum right column** is used, comment lines will be wrapped when they reach the specified column, even if they have not reached the specified fixed width. This is useful if coding standards mandate that text should not exceed a specified column.
  - **Automatic width** - If selected, the width of the longest multi-line paragraph in the comment block is used as the width for block comments. This is useful for preserving the formatting of existing comments.

If **Maximum right column** is used, comment lines will be wrapped when they reach the specified column, even if they have not reached the specified fixed width. This is useful if coding standards mandate that text should not exceed a specified column.

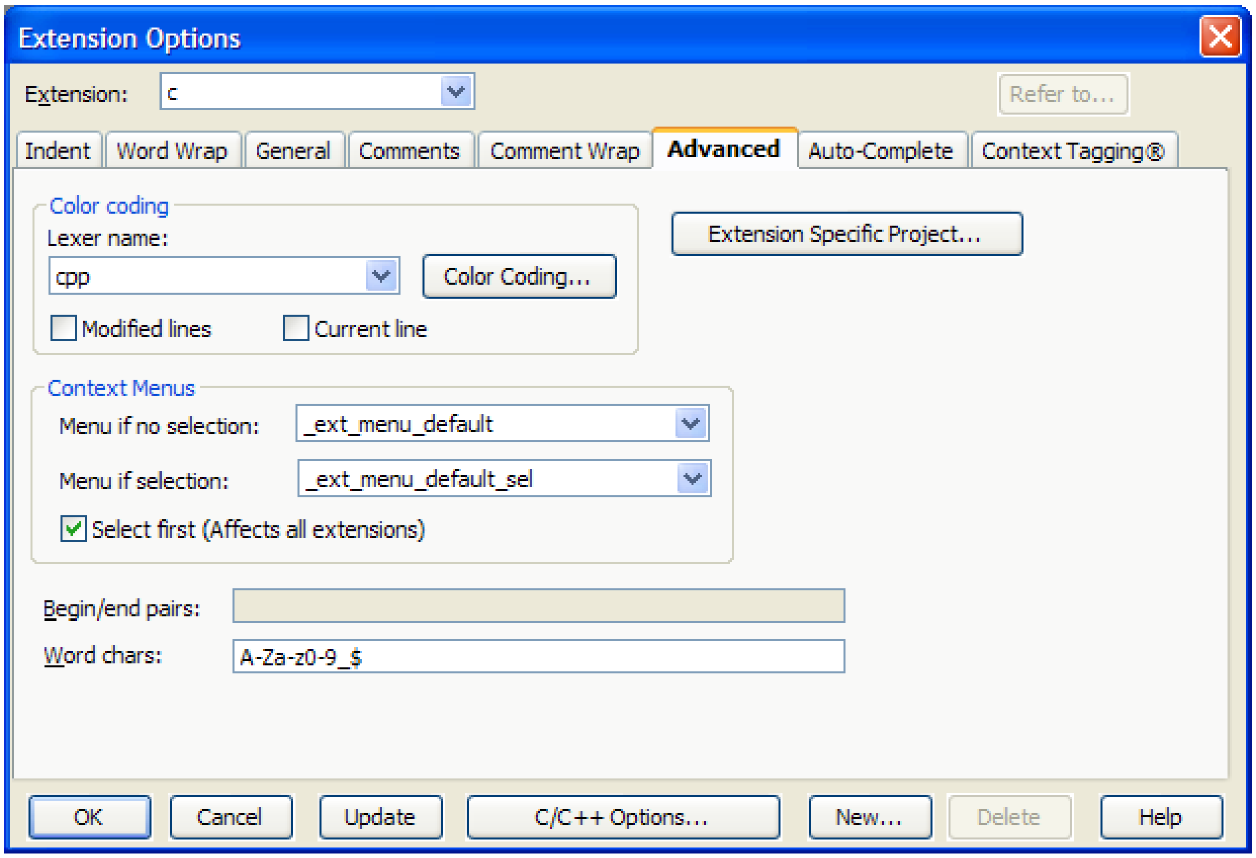
  - **Fixed right margin** - If selected, lines will break before the specified number of columns in the **Right column** field has been reached.
  - **Preserve width on existing comments** - If selected, when editing an existing comment, SlickEdit® Core preserves the width of the existing comment. The width is determined by the length of the longest multi-line paragraph. If the width of the existing comment cannot be determined, the formatting option specified under **Comment width** will be used instead.
  - **Continue bullet list on Enter** - If selected, when **Enter** is pressed inside a bulleted paragraph, a new bullet will be inserted and the cursor will be placed at the text starting position.

- **Javadoc** - If **Use hanging indent on block tag comments** is selected, the second line of a block tag comment will be automatically aligned to the first non-whitespace character after the first word after the tag.
- **Sync vertical line column** - This button will make visible and move the vertical line column to match the hard margin column (if using fixed right column margins) or the maximum right column (if using fixed width).

Advanced Tab

The **Advanced** tab allows you to set color coding, extension-specific project parameters, and more. To access these settings, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Advanced** tab.

Figure 10.37. Extension Options: Advanced Tab



Extension: c

Lexer name: cpp

☐ Modified lines ☐ Current line

Menu if no selection: _ext_menu_default

Menu if selection: _ext_menu_default_sel

☑ Select first (Affects all extensions)

Begin/end pairs:

Word chars: A-Za-z0-9_$

The following options and settings are available:

- **Color coding options** - The options below affect Color Coding. For more information about working with this feature, see Color Coding.
  - **Lexer name** - Use the drop-down list to select the lexer to use to recognize elements to be colored.
  - **Color Coding** - Click this button to display the Color Coding Setup dialog, allowing modification of language-specific color coding for the current language.
  - **Modified lines** - If selected, lines that have been modified are color-coded.
  - **Current line** - Check on **Current line** to color-code the current line.
- **Extension specific project** - (Not available in SlickEdit Core.) Click this button to set project properties specific to a file extension.
- **Context Menus** - These options specify which context menu to display in the editor window base on whether a text selection is made in the editor window.
  - **Menu if no selection** - This specifies the menu that is displayed when right-clicking in an edit window that does not have a selection.
  - **Menu if selection** - This specifies the menu that is displayed when right-clicking in an edit window that has a selection.

  - **Select first (affects all extensions)** - When checked (default), a selection can be made with the right mouse button instead of displaying the extension-specific menu. When this is not checked, select menu items by clicking and dragging the mouse.

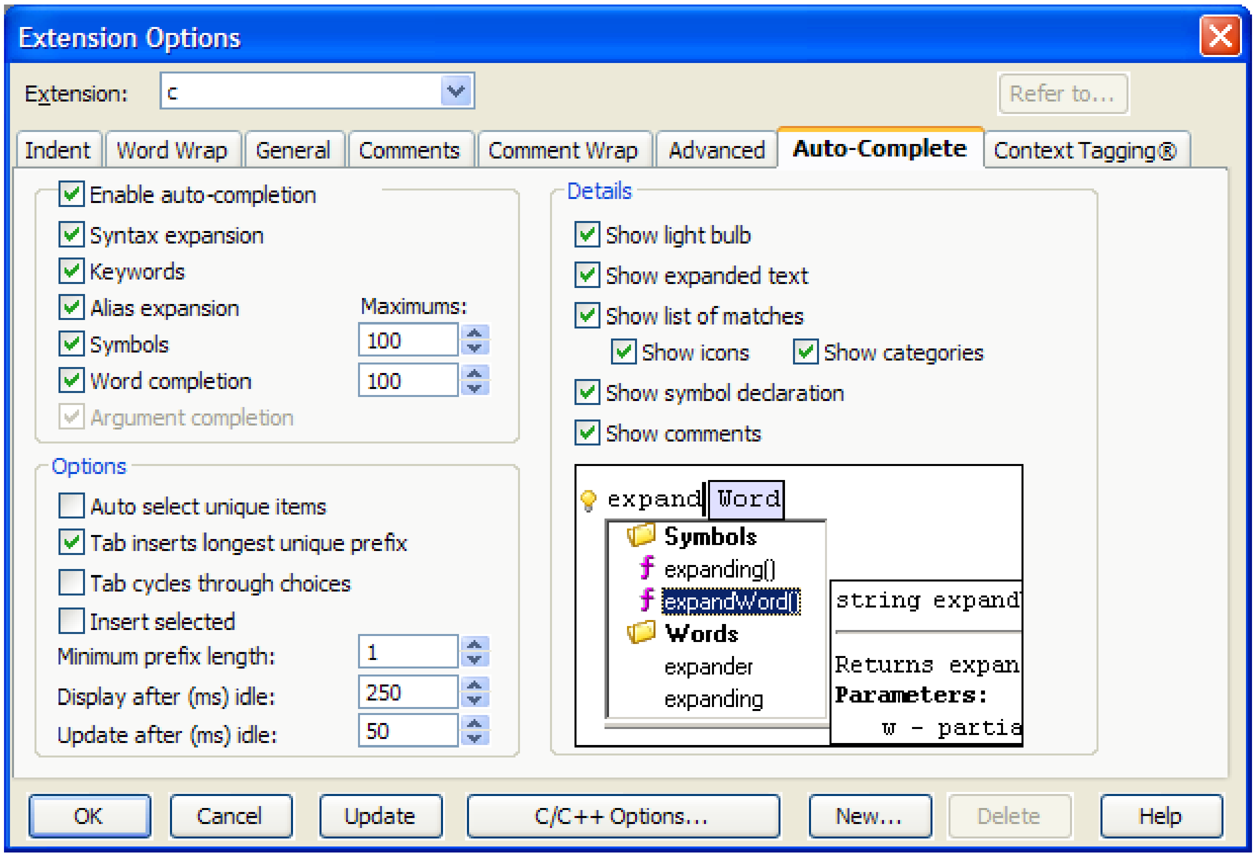
- **Begin/End pairs** - Specify the begin/end pairs to use for the selected extension in a format similar to a regular expression. This text box is unavailable for languages that have special begin/end matching built-in. See Begin/End Structure Matching for more information about begin/end pairs and using this option.

- **Word chars** - The word characters affect the operation of all word-oriented commands, including word searching. You can use a dash (**-**) character to specify a range, such as "A-Z", which specifies uppercase letters. To specify the dash (**-**) character as a valid word character, place a dash at the beginning or end of the word character string.

Auto-Complete Tab

Auto-Complete options in SlickEdit® Core can be configured for each file extension type. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Auto-Complete** tab.

Figure 10.38. Extension Options: Auto-Complete Tab



[✓] Enable auto-completion
[✓] Syntax expansion
[✓] Keywords
[✓] Alias expansion
[✓] Symbols
[✓] Word completion
[✓] Argument completion

Maximums:
Symbols: 100
Word completion: 100

Options
[ ] Auto select unique items
[✓] Tab inserts longest unique prefix
[ ] Tab cycles through choices
[ ] Insert selected
Minimum prefix length: 1
Display after (ms) idle: 250
Update after (ms) idle: 50

Details
[✓] Show light bulb
[✓] Show expanded text
[✓] Show list of matches
[✓] Show icons [✓] Show categories
[✓] Show symbol declaration
[✓] Show comments

```
expand Word
Symbols
  expanding()
  expandWord()
Words
  expander
  expanding
string expand
Returns expan
Parameters:
   w - partia
```

The following options are available:

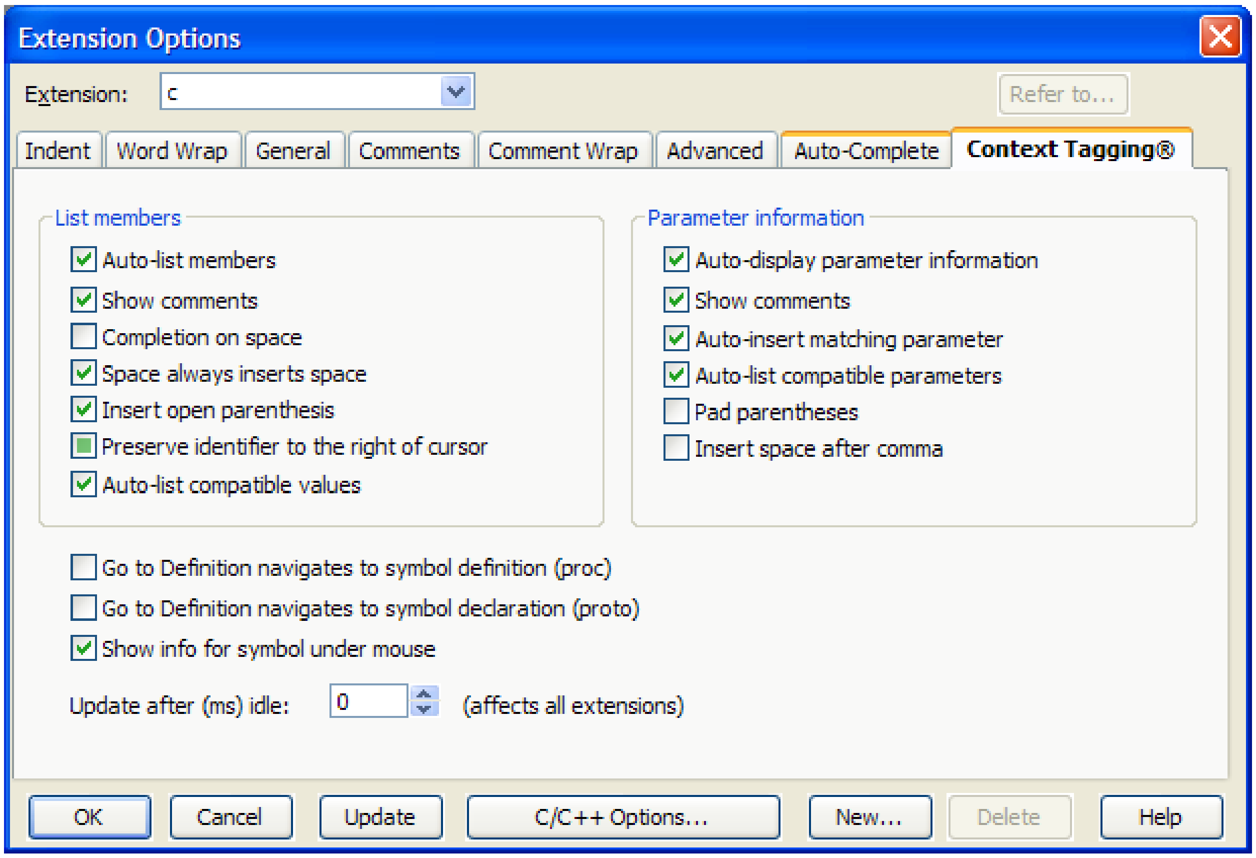
- **Enable auto-completion** - If selected, activates the Auto-Complete feature. See Auto-Complete for more information.
- **Syntax expansion** - If selected, Auto-Complete will show Syntax Expansion choices for the word prefix under the cursor. Syntax Expansion completes syntactic elements of the language, like **if** or **for** statements, putting in the parentheses and braces matching your specified coding style settings. See Syntax Expansion for more information.
- **Keywords** - If selected, Auto-Complete will show keyword choices for the word prefix under the cursor, if it matches one or more keywords in the current language.
- **Alias expansion** - If selected, Auto-Complete will show the matching alias for the word under the cursor. Aliases names require an exact word match, not just a prefix match. For more information on using aliases, see Aliases.
- **Symbols** - If selected, symbols will be displayed as completion options if the word prefix at the cursor matches one or more symbols using a strict, context-sensitive and language-specific tag search.
  - **Maximums (Symbols)** - For performance tuning, you can limit the maximum number of symbols displayed by Auto-Complete. This setting affects all file extensions.
- **Word completion** - If selected, word completions will be displayed if the word prefix under the cursor matches one or more words in the current file. The strength of this option is that it ties into the word and line completion features of SlickEdit Core. After you select a word completion, you can press **Ctrl**+**Shift**+**Space** to complete the rest of the line from which the original word came. See Word Completion for more information.
  - **Maximums (Word completion)** - For performance tuning, you can limit the maximum number of word completions displayed by Word Completion. This setting affects all file extensions. This is especially useful when editing large files.
- **Auto-select unique items** - If this option is selected and Auto-Complete finds exactly one word match, it will automatically select that match for completion. If this option is turned off, you must select a word to complete using the **Tab** key or the **Up** or **Down** arrow keys.
- **Tab inserts longest unique prefix** - If selected, pressing **Tab** will cause Auto-Complete to attempt to insert the longest unique prefix match of all its completions. If the word prefix cannot be extended, **Tab** will cycle to the next completion choices.
- **Tab cycles through choices** - Select this option if you want to use **Tab** and **Shift**+**Tab** to cycle through completion choices, as is done in some command shells. If deselected, **Tab** will attempt to insert the longest unique prefix (if selected), or insert the selected completion, or cancel Auto-Complete and behave normally if there is no completion selected.
- **Insert selected** - If selected, when cycling through completion choices and a choice is selected, the selected choice will replace the current text. This modifies the file as you work.
- **Minimum prefix length** - The minimum number of characters the word prefix must contain before auto-completions will be displayed automatically.

- **Display after (ms) idle** - The number of milliseconds the editor must be idle before auto-completion suggestions will be displayed. This setting affects all extensions.
- **Update after (ms) idle** - The number of milliseconds the editor must be idle before auto-completion suggestions will be refreshed. This setting affects all extensions.
- **Show light bulb** - If selected, displays the light bulb as a reminder when Auto-Complete suggestions are available for the current word prefix.
- **Show expanded text** - If selected, shows the rest of the word or statement being completed.
- **Show list of matches** - If selected, shows the list of matches underneath the word prefix.
  - **Show icons** - If selected, displays symbol icons and folder icons. Turn this feature off to get a more compact list containing only completions.
  - **Show categories** - If selected, shows completions in a categorized list for each type. If not selected, all completions will be shown in one flat, sorted list.
- **Show symbol declaration** - If selected, for symbol completions, this will show the symbol declaration as a comment to the right of the symbol completion.
- **Show comments** - If selected, for symbol completions, this will display the symbol's comments to the right of the symbol completion.

Context Tagging® Tab

Context Tagging options can be configured for each file extension type. This allows you to activate and deactivate particular features on a per-language basis. To change these options, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select the **Context Tagging®**.

Figure 10.39. Extension Options: Context Tagging® Tab


Extension Options

Extension: c

Refer to...

Indent | Word Wrap | General | Comments | Comment Wrap | Advanced | Auto-Complete | Context Tagging®

List members
- [✓] Auto-list members
- [✓] Show comments
- [ ] Completion on space
- [✓] Space always inserts space
- [✓] Insert open parenthesis
- [■] Preserve identifier to the right of cursor
- [✓] Auto-list compatible values

Parameter information
- [✓] Auto-display parameter information
- [✓] Show comments
- [✓] Auto-insert matching parameter
- [✓] Auto-list compatible parameters
- [ ] Pad parentheses
- [ ] Insert space after comma

- [ ] Go to Definition navigates to symbol definition (proc)
- [ ] Go to Definition navigates to symbol declaration (proto)
- [✓] Show info for symbol under mouse

Update after (ms) idle: 0 (affects all extensions)

OK | Cancel | Update | C/C++ Options... | New... | Delete | Help

List Members

The following options apply to List Members. See List Members for more information.

- **Auto-list members** - If selected, typing a member access operator (for example, "." or "->" in C++) will trigger SlickEdit® Core to display a list of the members for the corresponding type. To access this feature on demand, press **Alt**+**Dot**. If you use this feature on demand, and you are not in a member expression, this feature will display a list of locals, global variables, current class members, etc.

- **Show comments** - If selected, the comments are displayed for the currently selected symbol in the list displayed by List Members. When a symbol has multiple definitions or overloads, and multiple sets of comments, the comments will indicate that you are looking at item "< 1 of n >". Click on the arrows or use **Ctrl**+**PgUp** and **Ctrl**+**PgDn** to cycle through the comment sets.

- **Completion on space** - If selected, pressing the spacebar when List Members is displayed will insert the longest unique matching prefix from the symbols in the list. For example, if the list contains **FLAG_CHAR** and **FLAG_LONG**, then typing **FL<Alt+Dot><spacebar>** completes the line of code up to **FLAG_**. If this option is not selected, use **Ctrl**+**Space** when List Members is displayed to perform completion.

- **Space always inserts space** - If selected, pressing the spacebar when List Members is displayed will insert the current item and a space in the list after the current item. If unselected, pressing the spacebar will only insert the current item with no extra space.

- **Insert open parenthesis** - If selected, selecting an item in the list inserts the current item in the list and any extra characters that are required by the symbol. For example, an open parenthesis is inserted after a function name for languages that require an open parenthesis after a function name. For C++, the less-than symbol (<) is inserted after a template class name.
- **Preserve identifier to right of cursor** - If selected, only the identifier characters before the cursor are replaced with an item selected from a List Members dialog. Identifier characters after the cursor are preserved. When this option is not selected, identifier characters following the cursor are replaced with the item selected from a list members dialog. When this option is in the mixed state, trailing identifier characters are preserved for auto list members but not when listing members on demand by pressing **Alt**+**Dot**.

  For example, if List Members is active and the current line is as follows:

  ```
  this->foo<cursor_here>Bar
  ```

  Then if this option is selected and you choose a symbol named "foodForThought" from the List Members list, the line will be changed to:

  ```
  this->foodForThought<cursor here>Bar
  ```

  If this option is not selected, doing the same would result in:

  ```
  this->foodForThoughtBar<cursor here>
  ```

- **Auto-list compatible values** - If selected, compatible variables are automatically listed after you press the spacebar after assignment operators and return statements. Global (non-module) variables are not listed. This only affects C, C++, and Java. To access this feature on demand, press **Alt**+**Comma**.

Parameter Information

The following options apply to parameters. See Parameter Information for more details.

- **Auto-display parameter information** - If selected, the prototype and comments for a function are automatically displayed when a function operator such as the open parenthesis is typed, and the current argument is highlighted within the displayed prototype. To access this feature on demand, press **Alt**+**Comma**.
- **Show comments** - If selected, comments are displayed when Parameter Info is displayed. When a symbol has multiple definitions, and multiple sets of comments, the comments will indicate that you are looking at item "< 1 of n >". Click on the arrows or use **Ctrl**+**PgUp** and **Ctrl**+**PgDn** to cycle through the comment sets.
- **Auto-insert matching parameter** - If selected, when Parameter Info is displayed and the name of the current formal parameter matches the name of a symbol in the current scope of the appropriate type or class, the name is automatically inserted. When the name is inserted, it is also selected so that you can type over it, or you can type **Comma**, **Space**, **Tab**, or a closing parenthesis to use the automatically inserted parameter.

- **Auto-list compatible parameters** - If selected, compatible variables are automatically listed when parameter info is active and typing the arguments to a function call. Global (non-module) variables are not listed. This only affects C, C++, and Java. To access this feature on demand, press **Alt**+**Comma**. See Auto List Compatible Parameters for more information.
- **Pad parentheses** - If selected, a space is inserted after the open parenthesis when a parameter name is automatically inserted. In addition, if you type a close parenthesis after an automatically inserted parameter, it will insert a space before the close parenthesis.
- **Insert space after comma** - If selected, a space is inserted after the comma when a parameter name is automatically inserted, such as **myfun(a, b, c)**.

Miscellaneous Options

The following options appear at the bottom of the **Context Tagging**® tab:

- **Go to Definition navigates to symbol definition (proc) or declaration (proto)** - These options are mutually exclusive. If neither option is selected, the Select a Tag dialog is displayed, prompting you for both definitions and declarations. In any case, if you use **Ctrl**+**Dot** to jump to a symbol, you can cycle through the alternate symbols by pressing **Ctrl**+**Dot** repeatedly. You can step backwards through the list of matches by pressing **Ctrl**+**Comma**. However, once you reach the first match, **Ctrl**+**Comma** will then pop you back to your original location, where you were before you pressed **Ctrl**+**Dot**.

  Independent of the settings for these options, in the following circumstances, SlickEdit® Core will jump directly to the definition or declaration.

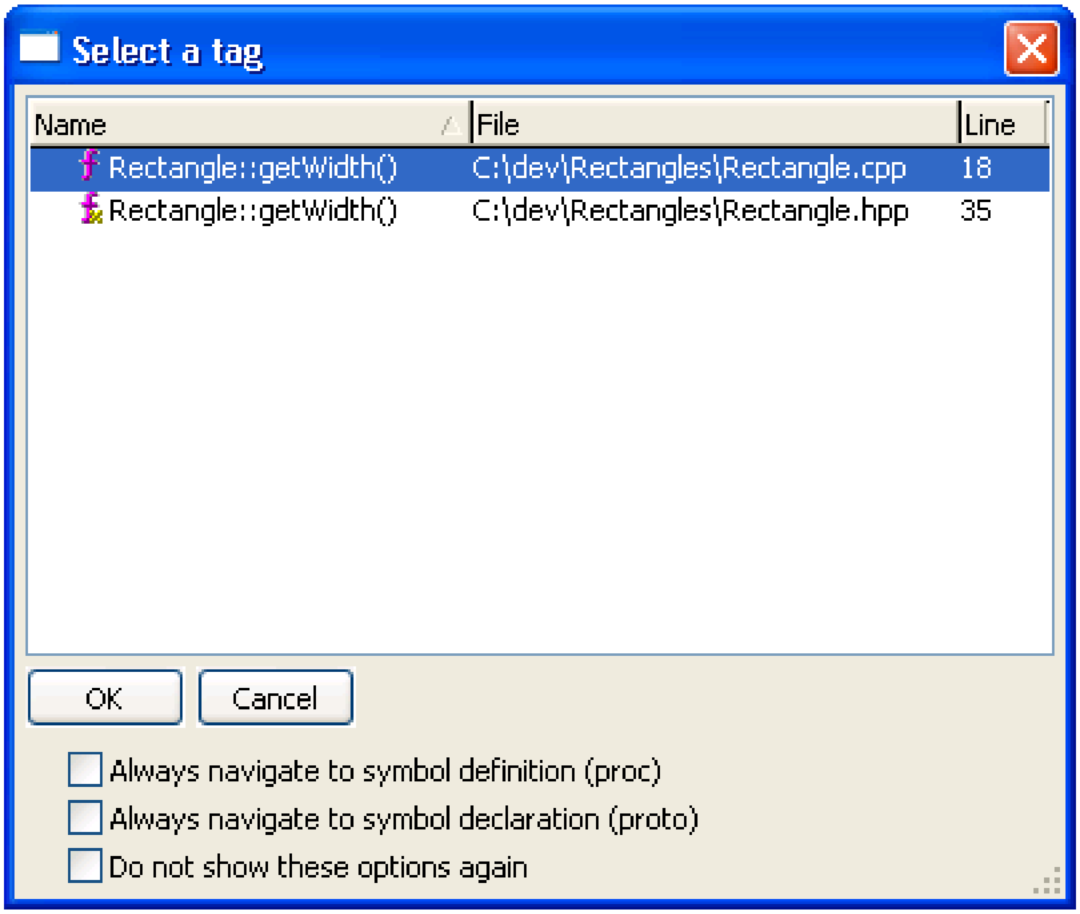
  - If the cursor is on the first line of a symbol's declaration, it will jump directly to the definition, provided it is unique.
  - If the cursor is on the first line of a symbol's definition, it will jump directly to the declaration, provided it is unique.

  This behavior is particularly convenient for C++ programmers to navigate from a function to its prototype and vice-versa. See Symbol Navigation for more information about navigating through your code.
- **Show info for symbol under mouse** - When selected, as the mouse cursor floats over a symbol, the information and comments for that symbol are displayed.
- **Update after (ms) idle** - The value that you type in this field contains the idle time in milliseconds before the List Members feature displays the list. To prevent the List Members list from being displayed when you are typing fast, set the idle time to 300 milliseconds.

Select a Tag Dialog

The Select a Tag dialog is used to prompt whether you want to navigate to the symbol’s definition or declaration when you use Go to Definition (**Ctrl**+**Dot**, **Navigate** → **Go to Definition**, or **push_tag** command).

Figure 10.40. Select a Tag Dialog



Name	File	Line
Rectangle::getWidth()	C:\dev\Rectangles\Rectangle.cpp	18
Rectangle::getWidth()	C:\dev\Rectangles\Rectangle.hpp	35

- [ ] Always navigate to symbol definition (proc)
- [ ] Always navigate to symbol declaration (proto)
- [ ] Do not show these options again

Select the definition you want to go to. You can also check the options on this dialog to set the behavior going forward. When you set the **Always navigate to symbol** options, the settings are also updated for the **Go to Definition** options on the Context Tagging Tab of the Extension Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **File Extension Setup** setting).

See Symbol Navigation for more information.

File Options Dialog

You can set various options that pertain to loading, saving, and other file operations. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting. The File Options dialog is displayed, containing the following four tabs–click the links to go to the appropriate descriptions in the documentation:

- Load Tab
- Save Tab

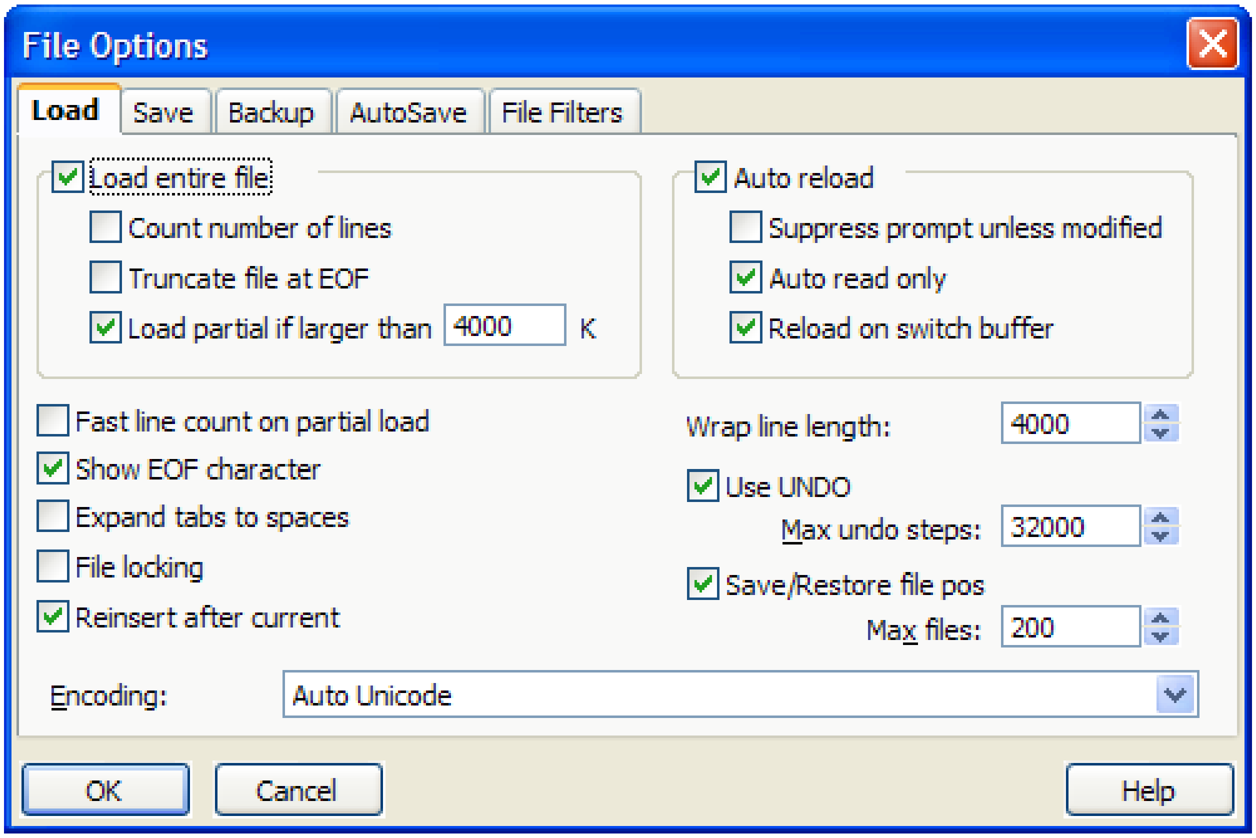
- Backup Tab
- AutoSave Tab
- File Filters Tab

Load Tab

The **Load** tab, pictured below, offers options to control how files are loaded.

To access the **Load** tab, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting and select the **Load** tab.

Figure 10.41. File Options: Load Tab



[✓] Load entire file
[ ] Count number of lines
[ ] Truncate file at EOF
[✓] Load partial if larger than 4000 K

[✓] Auto reload
[ ] Suppress prompt unless modified
[✓] Auto read only
[✓] Reload on switch buffer

[ ] Fast line count on partial load
[✓] Show EOF character
[ ] Expand tabs to spaces
[ ] File locking
[✓] Reinsert after current

Wrap line length: 4000
[✓] Use UNDO
Max undo steps: 32000
[✓] Save/Restore file pos
Max files: 200

Encoding: Auto Unicode

The following settings are available:

- **Load entire file** - When selected, the entire contents of the opened files are read into memory. The line indicator (located at the bottom right section of the editor) might become blank if the file does not fit in the editor's cache (defaults to 2 MB). When this option is not selected, Auto Reload does not work until the file is saved. If you are using the **load** command to open files, use the switch **+L** to specify this option.
- **Count number of lines** - When selected, the entire contents of the opened files are read into memory

and the number of lines in the file are counted. The line number is always displayed in the line indicator area of the editor. The **Load entire file** check box will have the same affect as this check box when the entire file fits within the cache of the editor (defaults to 2 MB) and does not have to be spilled. If you are using the **load** command to open files, use the switch **+LC** to specify this option.

- **Truncate file at EOF** - When selected, the entire contents of the opened files are read into memory and the number of lines are counted. In addition, DOS format files are truncated when an EOF character is found. The line number is always displayed in the line indicator area of the editor. This option is useful for REXX `.cmd` files which can have p-code appended to them after the EOF character. If you are using the **load** command to open files, use the switch **+LZ** to specify this option.
- **Load partial if larger than** - When selected, if the file being loaded is greater than the size specified in the **Load partial if larger than** text box, the entire file is not read into memory. Since the file handle remains open to your file, Auto Reload does not work until the file is saved. The line indicator might be blank unless the **Fast line count on partial load** option is selected.
- **Auto reload** - When selected, the editor detects when files being edited have been modified by other applications and prompt or automatically replace the file with the new copy on disk.
- **Suppress prompt unless modified** - When selected, files being edited that have been modified by other applications will automatically be replaced with the new copy on disk.
- **Auto read only** - When selected, the editor detects when other applications change the read-only attribute of the file and turns the read-only mode on and off.
- **Reload on switch buffer** - When selected, the editor will detect when the file has been modified by other applications when the file is switched to the active editor window. If the option is not selected, the default check is still performed when you switch from another application.
- **Fast line count on partial load** - When selected, this option indicates that the editor is to count the number of lines when files are opened. The line number is always displayed in the line indicator area of the editor. This option is much faster than the **Count number of lines** option when editing files larger than the cache size (2 MB by default), because very little data is written to the spill file. The Auto Reload feature does not work until the file is saved. If you are using the **load** command to open files, use the switch **+LF** to specify this option.
- **Show EOF character** - When selected, the EOF character is not removed when files are loaded. If you are using the **load** command to open files, use the switch **+LE** to specify this option.
- **Expand tabs to spaces** - When selected, the entire contents of the files are read into memory and tabs are expanded into spaces. If your tab settings for the file being loaded are of the form **+<*increment*>** (e.g. "+4"), then tabs are expanded in increments of the specified increment. Otherwise, tabs are expanded in increments of eight. To set tabs in a form **+<*increment*>**, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. On the Extension Options dialog, select your extension from the **Extension** drop-down list, then select the Indent Tab. Enter your values in the **Tabs** text box. For languages such as REXX and Linux containing shell scripts that require the contents of the file be analyzed before the file type is known, the **Fundamental mode** tab settings are used. If you are using the **load** command to open files, use the switch **+E** to specify this option.

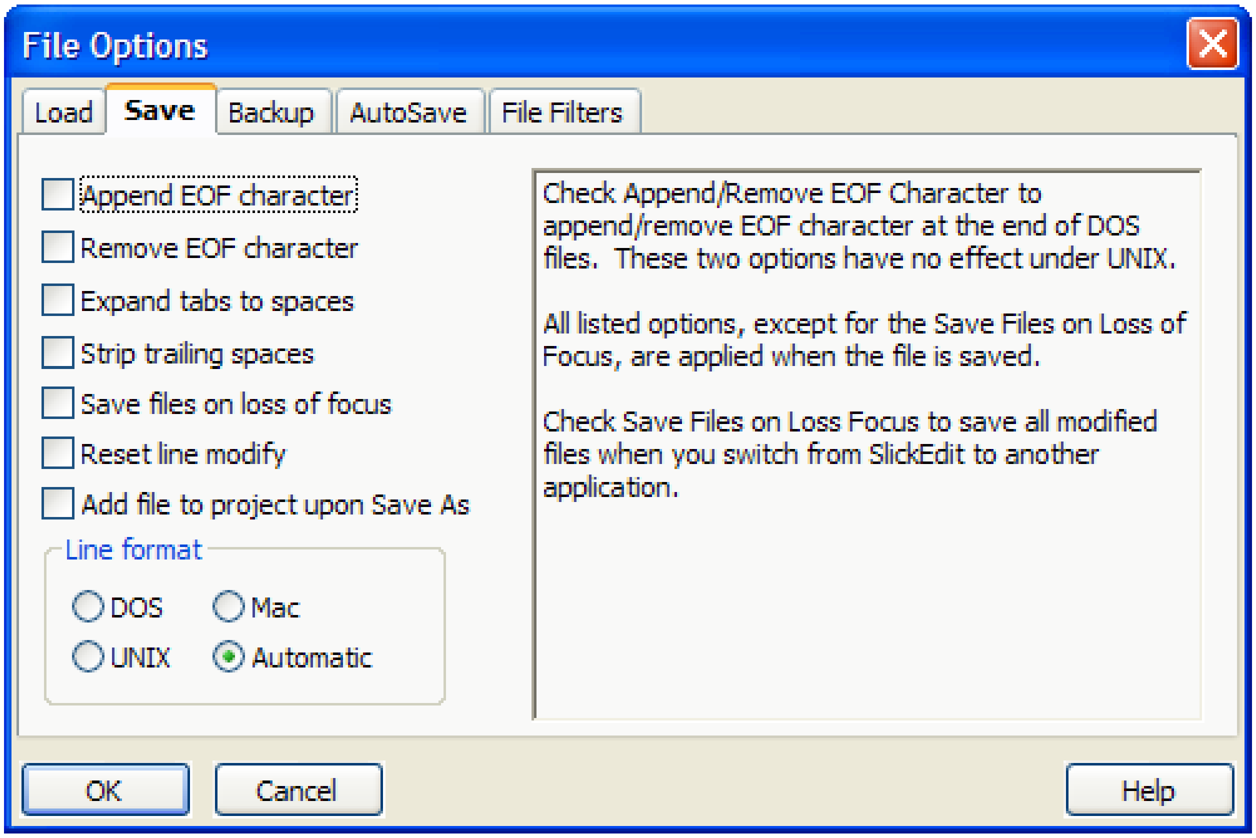
- **File locking** - When selected, this option ensures that a file handle is kept open to the file for locking purposes. This detects when another user is editing the same file. If you are using the **load** command to open files, use the switch **+N** to specify this option.
- **Reinsert after current** - (Not available in SlickEdit Core.) When selected, the editor will switch back to the previous buffer or window with the **prev_buffer** or **prev_window** command. If you are using the **load** command to open files, use the switch **+BP** to specify this option.
- **Unmodified block spilling** - When selected, unmodified blocks are spilled when the memory/buffer cache is full. When the spill file destination is faster than the disk the file resides on (such as a floppy drive), select this option for optimal performance. If you are using the **load** command to open files, use the switch **+S** to specify this option.
- **Wrap line length** - When selected, this option improves editing performance on large files with very long lines, by wrapping the long lines at the number of characters specified here. This option is particularly useful for editing very large, single-line XML files.
- **Use undo**, **Max undo steps** - When **Use undo** is selected, modifications to buffers may be undone. The **Max undo steps** box specifies the maximum number of steps that are stored. Cursor motion can be undone but is not counted as a step. If you are using the **load** command to open files, use the switch **+U** to specify this option. For example, **+U:32000** turns on undo and specifies a 32000-step max).
- **Save/Restore file pos**, **Max files** - When **Save/Restore file pos** is selected, when you open a file, the cursor position is restored to its previous location when the file was closed. The **Max files** box specifies the maximum number of cursor positions saved. The most recently closed file positions are stored.
- **Encoding** - Unicode support required. Specifies the global (non-extension specific) file encoding. This setting is overridden if an extension-specific encoding is defined. Both the extension-specific and global setting are overridden if you specify an encoding in the Open dialog. SlickEdit® Core records the encoding used to override default encoding settings and reuses this setting the next time you open the same file. This provides you with per-file encoding support. Encoding is also supported for Microsoft project files (`vcproj`, `csproj`, `vbproj`) that are XML files but that default to active code page encoding and not UTF-8, like XML. See Encoding for more information.

Save Tab

The **Save** tab, shown below, contains options that affect how files are saved.

To access save options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting. On the File Options dialog, select the **Save** tab.

Figure 10.42. File Options: Save Tab



- [ ] Append EOF character
- [ ] Remove EOF character
- [ ] Expand tabs to spaces
- [ ] Strip trailing spaces
- [ ] Save files on loss of focus
- [ ] Reset line modify
- [ ] Add file to project upon Save As

Line format: DOS, Mac, UNIX, [✓ Automatic]

Check Append/Remove EOF Character to append/remove EOF character at the end of DOS files. These two options have no effect under UNIX.

All listed options, except for the Save Files on Loss of Focus, are applied when the file is saved.

Check Save Files on Loss Focus to save all modified files when you switch from SlickEdit to another application.

The following options are available:

- **Append EOF character** - When this option is set, an EOF character is appended to the end of DOS files when the buffer is saved. This option has no effect on UNIX, Macintosh, or binary files. If you are using the **save** command to save files, use the switch **+Z** to specify this option.
- **Remove EOF character** - When this option is set, the EOF character is removed from the end of DOS files when the buffer is saved. This option has no effect on UNIX, Macintosh, or binary files. If you are using the **save** command to save files, use the switch **+ZR** to specify this option.
- **Expand tabs to spaces** - When this option is set, tabs are expanded to spaces according to the tab stops when the buffer is saved. If you are using the **save** command to save files, use the switch **+E** to specify this option.
- **Strip trailing spaces** - When this option is set, trailing spaces at the end of each line are stripped when the buffer is saved. If you are using the **save** command to save files, use the switch **+S** to specify this option.
- **Save files on loss of focus** - When this option is set, all modified files will be saved when you switch to another application.
- **Reset line modify** - When this option is set, line modify flags are reset when the buffer is saved. If you are using the **save** command to save files, use the switch **+L** to specify this option.
- **Add file to project upon Save As** - (Not available in SlickEdit Core.) This option controls the default

value of the **Add to project** option on the Save As dialog. Check this option on the **Save** tab to have the **Add to project** check box selected by default each time the dialog is invoked. By default, neither option is set. If you are using the **save** command to save files, use the switch **+P** to specify this option.

- **Line format -** By default, the line format is set to **Automatic**, which means files are saved "as is" and there are no changes made to the line end characters. To have line end characters translated when files are saved, set the file format to **DOS**, **Mac**, or **UNIX**.

  When **Automatic** is set (default), the line breaks are saved automatically in the file format appropriate to the context in which you are working. However, you can designate a file type for the line breaks. For example, if you are working in Windows and using CVS, using UNIX line breaks will make using CVS easier. Therefore, set the file format to **UNIX**.

Note

Classic Mac line endings are a single carriage return (ASCII 13).

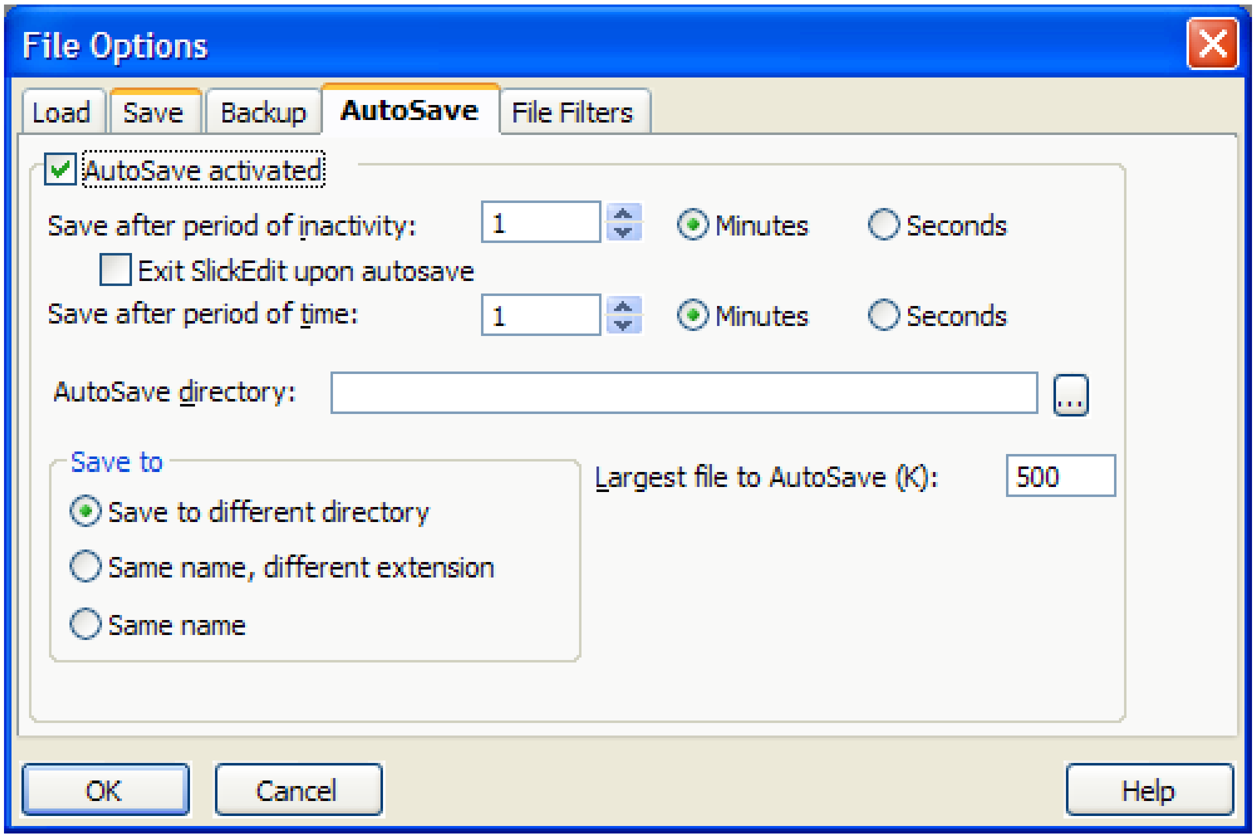
Backup Tab

The Backup tab is not available in SlickEdit Core. See File History and Backups for more information.

AutoSave Tab

The **AutoSave** tab, shown below, contains settings for automatically saving files.

Figure 10.43. File Options: AutoSave Tab



[✓] AutoSave activated

Save after period of inactivity: 1 [● Minutes] ○ Seconds

[ ] Exit SlickEdit upon autosave

Save after period of time: 1 [● Minutes] ○ Seconds

AutoSave directory:

Save to

[● Save to different directory]

○ Same name, different extension

○ Same name

Largest file to AutoSave (K): 500

The following options are available:

- **AutoSave activated** - Activates AutoSave, which prevents you from losing data when an abnormal editor exit occurs (possibly from a power loss).

  The AutoSave temporary files are placed in a directory named `autosave` in the configuration directory. Usually, the AutoSave temporary files are deleted when you exit SlickEdit® Core. After a file is saved or closed, the AutoSave temporary file is deleted the next time AutoSave occurs. AutoSave temporary files are only needed for files that are modified.

  The current implementation of AutoSave does not save files that have are not named. In addition, AutoRestore does not restore files that do not exist on the disk drive of your system. Save your file at least one time to ensure that the file has a file name and exists on the disk drive.

- **Save after period of inactivity** - The value that you enter in this field specifies the amount of idle time, in minutes or seconds, when modified files should be saved. Set this value to **0** if you do not want this option ignored.

- **Exit SlickEdit on AutoSave** - When this option is selected, Eclipse with SlickEdit Core closes after an AutoSave.

- **Save after period of time** - Specifies amount of time in minutes or seconds when modified files should be saved. Set this value to **0** if you want this option ignored.

- **AutoSave directory** - The directory that you specify in this field is the AutoSave directory if the **Save to**

different directory option has been selected. If the **AutoSave directory** is blank, `<configuration_directory>\autosave` is used. The configuration directory is defined by the **VSLICKCONFIG** environment variable. If the **VSLICKCONFIG** environment variable is not set, the directory in the editor executable directory is used as the configuration directory.

- **Save to different directory** - Setting this option specifies that all AutoSave temporary files be placed in the directory specified by the AutoSave directory text box. Use this option to clean up or find all of the AutoSave files if an abnormal editor exit occurs.

Note

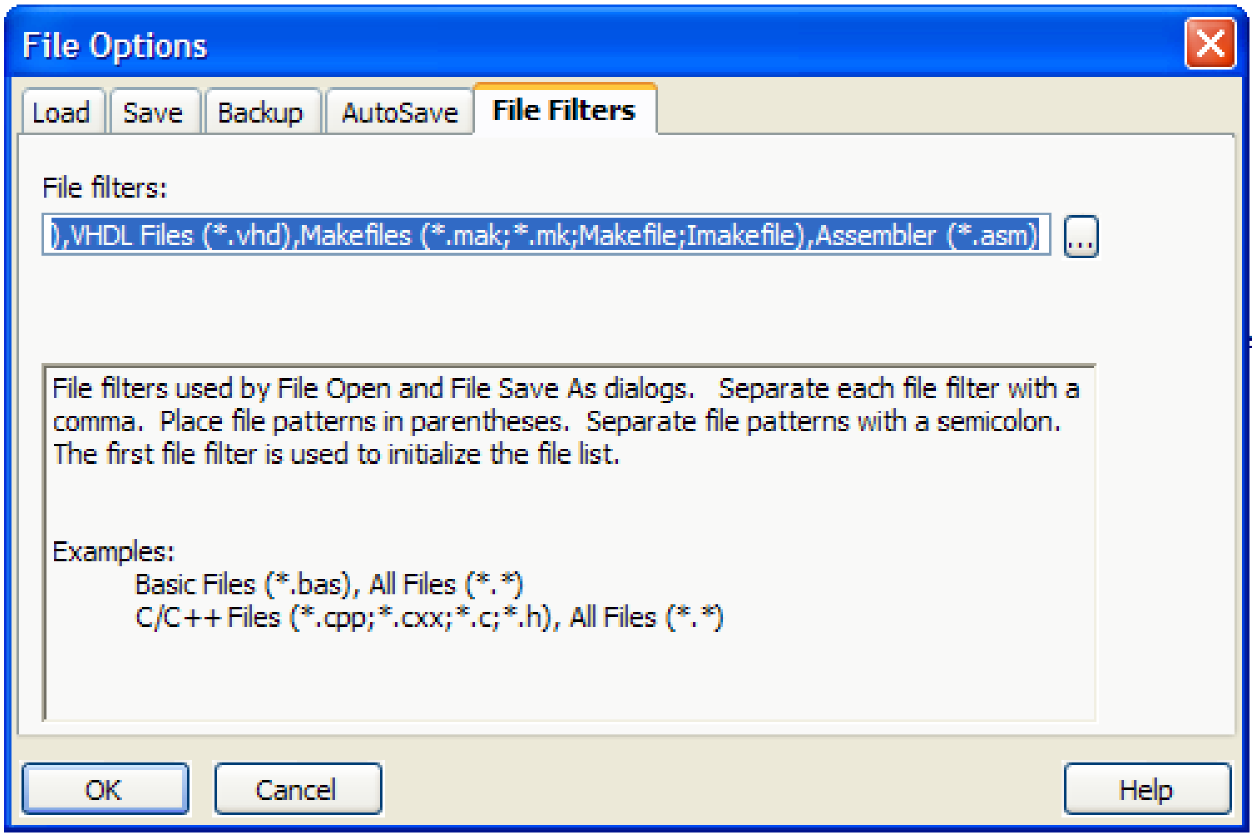
When editing two files with the same name but in different directories, one AutoSave temporary file is overwritten by the other.

- **Same name, different extension -** This option, when set, specifies that the AutoSave file be placed in the same directory as the file that is being auto-saved but it is given a different extension. The third character of the extension is replaced with a **~** character. The length of the extension is padded with underscores if the length of the extension is less than three characters. For example, the AutoSave file for `test.c` is `test.c_~`. The AutoSave file for `test.prg` is `test.pr~`. If you are editing two files in the same directory which differ only by the third character, one AutoSave temporary file will be overwritten by the other.
- **Same name** - Setting this option specifies that the modified files be automatically saved. No AutoSave temporary files are created.
- **Largest file to AutoSave (K)** - Files greater than the value that you type in this field are not automatically saved. Set this value to **0** if you want all files auto saved.

File Filters Tab

The **File Filters** tab, shown below, contains filtering options for opening and saving files. To access filters, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting. On the File Options dialog, select the **File Filters** tab.

Figure 10.44. File Options: File Filters Tab



File filters:

),VHDL Files (*.vhd),Makefiles (*.mak;*.mk;Makefile;Imakefile),Assembler (*.asm)

File filters used by File Open and File Save As dialogs. Separate each file filter with a comma. Place file patterns in parentheses. Separate file patterns with a semicolon. The first file filter is used to initialize the file list.

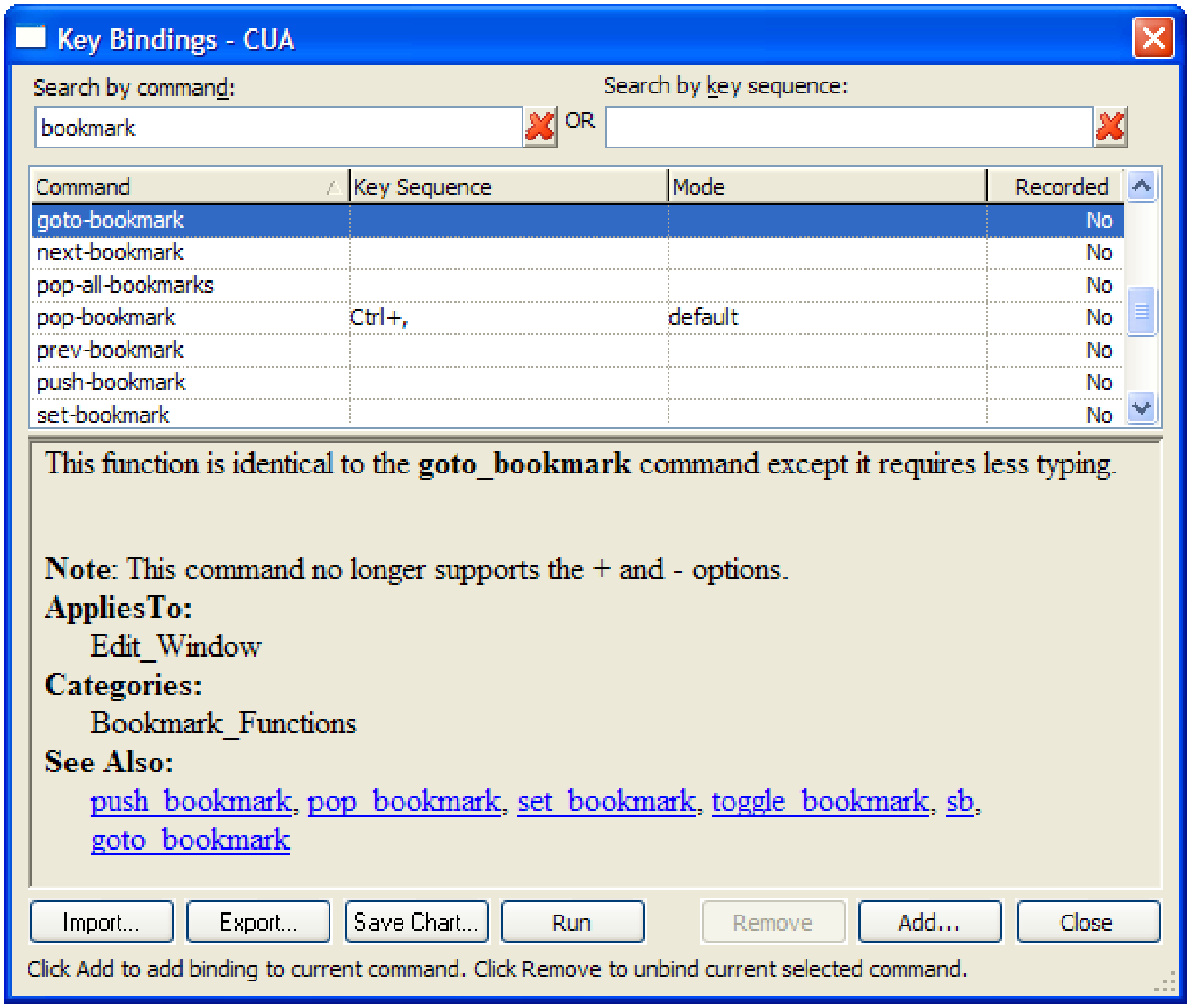
Examples:
    Basic Files (*.bas), All Files (*.*)
    C/C++ Files (*.cpp;*.cxx;*.c;*.h), All Files (*.*)

In the **File filters** text box, enter the filters you wish to assign. Separate each filter with a comma, and place file patterns in parentheses. Separate file patterns with a semicolon. The first file filter is used to initialize the file list.

Key Bindings Dialog

The Key Bindings dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **Key Bindings** setting, or use the **gui_keybindings** command) is used for creating and viewing mouse and key bindings for commands and user-created macros, as well as for importing and exporting your custom bindings. See Managing Bindings for detailed information.

Figure 10.45. Key Bindings Dialog



bookmark

Command	Key Sequence	Mode	Recorded
goto-bookmark			No
next-bookmark			No
pop-all-bookmarks			No
pop-bookmark	Ctrl+,	default	No
prev-bookmark			No
push-bookmark			No
set-bookmark			No

This function is identical to the **goto_bookmark** command except it requires less typing.

Note: This command no longer supports the + and - options.
AppliesTo:
Edit_Window
Categories:
Bookmark_Functions
See Also:
push_bookmark, pop_bookmark, set_bookmark, toggle_bookmark, sb,
goto_bookmark

Click Add to add binding to current command. Click Remove to unbind current selected command.

Note

- The first time the Key Bindings dialog is invoked, the Building Tag File progress bar may be displayed while Slick-C® macro code is tagged.
- Bindings are based on the editor emulation mode (CUA is the default). The title bar of the Key Bindings dialog shows the current mode. To change the emulation mode, click **Window** → **Preferences**, expand **SlickEdit** and click **Emulation** in the tree. For more information, see Emulations.

The dialog contains the following elements:

- **Search by command -** This filter is used for searching commands in the **Command** column. Type a string in the filter box, and the list of commands is filtered as you type to show only those commands that contain the specified string. The red **X** button is used to clear the text box or you can edit inside the text box manually.

- **Search by key sequence** - This filter is used for searching bindings in the **Key Sequence** column. It captures literal keyboard input. For example, when the focus is in this filter, press **Ctrl** and **C** at the same time, and "Ctrl+C" is displayed. Press the **Backspace** key and "Backspace" is displayed. Mouse events inside the filter are literal as well. For example, right-clicking within the filter displays the text "RButtonDn". Because the key sequence filter captures literal keyboard input, you cannot edit the text or use key functions such as backspacing or tabbing in and out of the field. You must use the red **X** button to clear the filter.

- **Command** - This column lists, in alphabetical order by default, the SlickEdit® Core commands and user macros that are or can be bound to keys or mouse events. Click on the column label to sort bindings by this column. An arrow in the column header indicates the sort order (ascending or descending).

  If a command/macro has more than one binding, each instance is listed on a separate row. For example, in CUA emulation, the command **gui_open** is bound to **F7** and **Ctrl**+**O**. Therefore, **gui_open** appears in the **Command** column three times, once for each binding.

- **Key Sequence** - This column shows the mouse event or key sequence associated with the command or macro. If a **Key Sequence** cell is empty, no binding is associated with that command/macro. Click on the column label to sort bindings by this column. An arrow in the column header indicates the sort order (ascending or descending).

- **Mode** - This column shows the language editing mode to which the key binding applies. The **default** mode causes the binding to work in all language editing modes. However, the default mode will be overridden by any language-specific mode binding to another command/macro. Click on the column label to sort bindings by this column. An arrow in the column header indicates the sort order (ascending or descending).

  ### Note

  To change the mode for a command/macro that is already bound, first you should unbind the command/macro, then recreate the binding with the mode you want to use. See Editing Bindings for more information. For information about editing modes, see Language Editing Modes.

- **Recorded** - This column indicates if the item in the Command column is a SlickEdit Core command (**No**) or a user-recorded macro (**Yes**).

- **Documentation pane** - The bottom pane of the dialog displays the code documentation for the selected command or macro, if it exists. Click "See Also" hyperlinks (if any exist) to display Help for that item. For See Also links, if a Help entry does not exist, a message box notification is displayed. The documentation pane can be resized by dragging the size bar in the middle of the dialog. The size is remembered the next time the dialog is displayed.

- **Import** and **Export** - These buttons allow you to import and export bindings. This is useful for creating backups, sharing with other team members, or taking with you should you switch computers. See Exporting and Importing Bindings for details of these features.

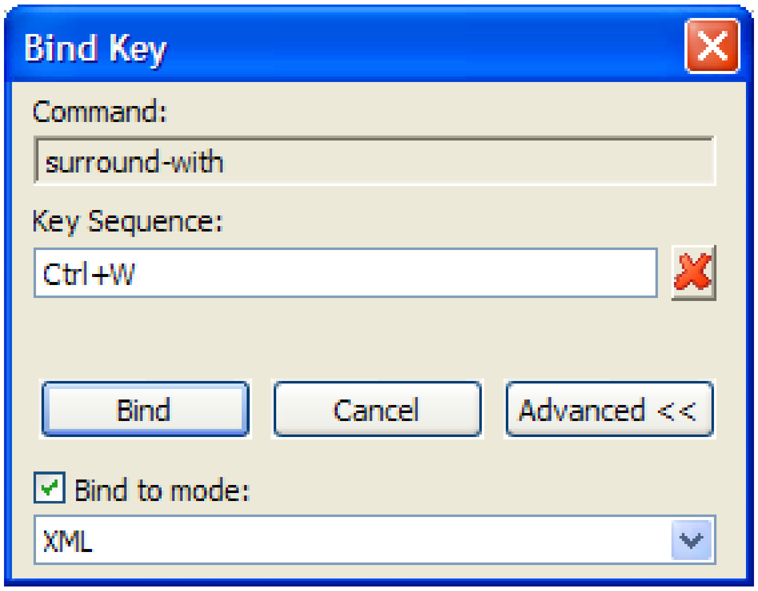
- **Save Chart** - This button allows you to save a reference chart of all current bindings for all language editing modes in the selected emulation. The chart is saved in HTML format with a name and location that you specify. Commands/macros that are not bound are not included.

- **Run** - This button runs the selected command or user-recorded macro.
- **Remove** - This button clears the binding for the selected command/macro. You can also press **Delete** to clear the binding.
- **Add** - This button is used to initiate a new binding, displaying the Bind Key dialog. See Creating Bindings and Bind Key Dialog for more information.
- **Close** - Closes the Key Bindings dialog. You can also press **Esc** to close the dialog.
- **Message line** - A message line under the buttons displays contextual instructions for using the dialog.

Bind Key Dialog

The Bind Key dialog is used to bind a command to a key sequence or mouse event. It is displayed when you click **Add** on the Key Bindings dialog to add a new binding.

Figure 10.46. Bind Key Dialog



surround-with

Ctrl+W

XML

The Bind Key dialog contains the following:

- **Command** - This field shows the command that you have selected to bind.
- **Key Sequence** - This field is used to enter the key sequence or mouse event that you want bound to the command. For example, to enter the key sequence **Ctrl**+**W**, literally press the **Ctrl** and **W** keys together. It accepts literal keyboard/mouse input, so you cannot edit the text or use key functions such as backspacing or tabbing in and out of the field. You must use the red **X** button to clear the filter.
- **Bind** - After entering the key sequence or mouse event, click this button to save the binding and close the dialog. Prior to clicking **Bind**, you may want to assign the binding to a specific language editing

mode (see below).

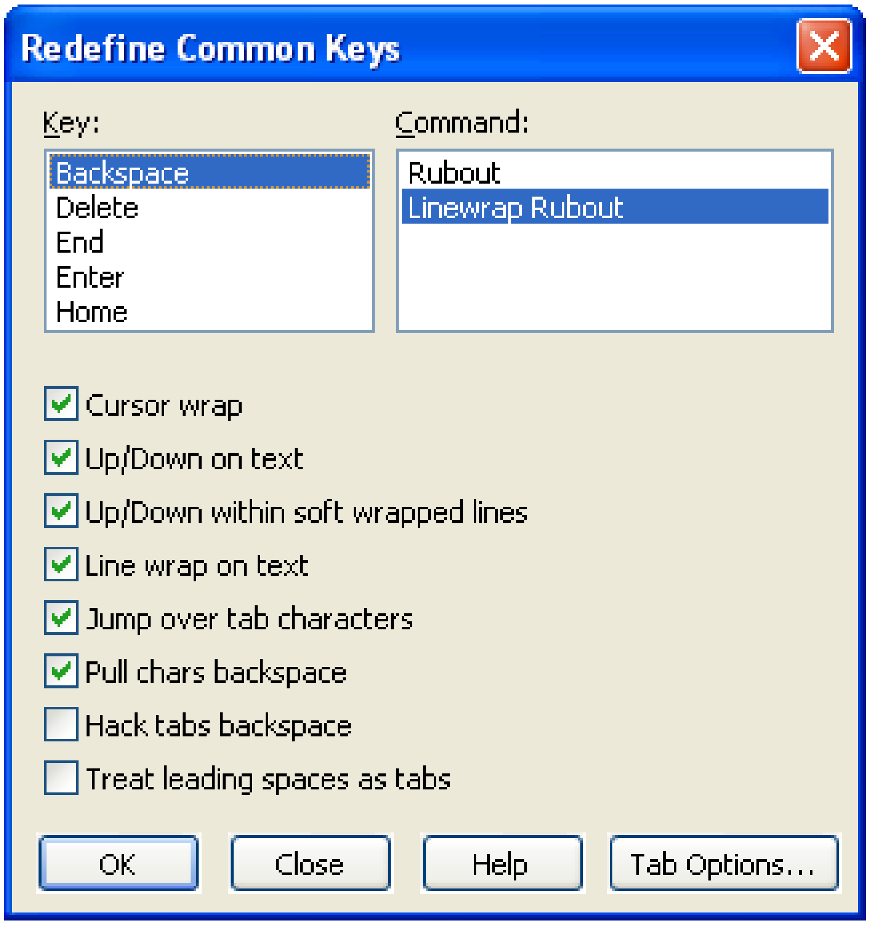
- **Cancel** - Click this button to cancel the binding operation and close the dialog.
- **Advanced** - Click this button to expand the language editing mode settings:
  - **Bind to mode** - By default, all new bindings are assigned to the "default" language editing mode, which means that the binding will work in all modes. To assign the binding to a specific language editing mode, select this option and click the language editing mode from the drop-down list. Click **Bind** when finished.

See Creating Bindings for more information.

Redefine Common Keys Dialog

The Redefine Common Keys dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Redefine Common Keys** setting) allows you to change the behavior of certain common keys. For more information about redefining keys, see Redefining Common Keys.

Figure 10.47. Redefine Common Keys Dialog



[✓] Cursor wrap
[✓] Up/Down on text
[✓] Up/Down within soft wrapped lines
[✓] Line wrap on text
[✓] Jump over tab characters
[✓] Pull chars backspace
[ ] Hack tabs backspace
[ ] Treat leading spaces as tabs

Redefinable Keys

The redefinable keys and their available commands are described below.

- **Backspace** - The following commands are available for binding to the **Backspace** key:
  - **Rubout** - Deletes the character to the left of the cursor. If Word Wrap is on (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting and select the Word Wrap Tab), the cursor will wrap to the previous line when the left margin is reached. Otherwise the cursor is not wrapped to the previous line.
  - **Linewrap Rubout** - Deletes the character to the left of the cursor. The cursor always wraps to the previous line when the left margin is reached. If you want line wrapping to occur when column one is reached, select the option **Line wrap on text** on this dialog.
- **Delete** - The following commands are available for binding to the **Delete** key:
  - **Delete Char** - Deletes the character at the cursor. If Word Wrap is on (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting and select the Word Wrap Tab) and no more characters exist on the current line, the next line is joined to the current line.
  - **Linewrap Delete Char** - Deletes the character at the cursor. If no more characters exist on the current line, the next line is joined to the current line.
- **End** - The following commands are available for binding to the **End** key:
  - **End line** - Moves the cursor to the end of the line.
  - **End Line Text Toggle** - Toggles the cursor between the end of the current line and the last non-whitespace character. This is useful for trimming extra spaces from long lines, because it gives you a natural and quick way to get to your vertical line column and the last non-blank column.
- **Enter** - The following commands are available for binding to the **Enter** key:
  - **Nosplit Insert Line** - Inserts a blank line after the current line and aligns the cursor with the first non-blank character of the original line. The current line is not split.
  - **Split Insert Line** - Splits the current line at the cursor. Enough blanks are inserted at the beginning of the new line to align it with the first non-blank character of the original line.
  - **Maybe Split Insert Line** - If the option **Start in insert mode** is on (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the More Tab), the current line is split at the cursor. Enough blanks are appended to the beginning of the new line to align it with the first non-blank character of the original line. If **Start in insert mode** is off, the cursor is moved to column one of the next line.

Note

When changing the key binding for the **Enter** key, the binding for **Ctrl**+**Enter** will automatically switch to the opposite setting, depending on whether it is bound to **Split Insert Line** or **Nosplit Insert Line**.

- **Home** - The following commands are available for binding to the **Home** key:
  - **Begin Line** - Moves the cursor to column one.
  - **Begin Line Text Toggle** - Toggles the cursor between the first non-blank character of the current line and column 1.

More Options

The settings listed below appear on the Redefine Common Keys dialog box.

- **Cursor wrap** - Determines whether the **cursor_left** and **cursor_right** commands wrap to the previous or next line respectively.
- **Up/Down on text** - Determines whether the **cursor_up** and **cursor_down** commands place the cursor in virtual space. By default, **cursor_up** and **cursor_down** go to the same column of the next or previous line, regardless of the length of the line.
- **Up/Down within soft wrapped lines** - If selected, when Soft Wrap is on (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting and select the Word Wrap Tab), the **cursor_down** and **cursor_up** commands move the cursor up to the next or previous visible line, including line continuations. To force **cursor_down** and **cursor_up** to move the cursor to the next or previous physical line (the same position to which the cursor would move if Soft Wrap was off), deselect this option.
- **Line wrap on text** - If selected, line wrapping will occur when column one is reached. If deselected, line wrapping occurs when the left margin is reached. When Word Wrap is on (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting and select the Word Wrap Tab), wrapping occurs when the left margin is reached regardless of the **Left** or **Backspace** key configurations.
- **Jump over tab characters** - If selected, moving the cursor over a tab character with the **Left** or **Right** arrow key causes the cursor to jump across the virtual space. To allow the **Left** and **Right** arrow keys to cursor into virtual space of tab characters, deselect this option.

  This setting also controls whether clicking in the buffer with the mouse to either position the cursor or to make a selection will align the cursor to the nearest tab character, or allow the cursor to be placed in virtual space between tab characters.
- **Pull chars backspace** - If selected, pressing the **Backspace** key when in Replace mode (when **Start in insert mode** is off [**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the More Tab]) removes the previous character and moves the cursor left. If you want the previous character to be replaced with a space character, deselect this option.
- **Hack tabs backspace** - If selected, pressing the **Backspace** key when the previous character is a tab

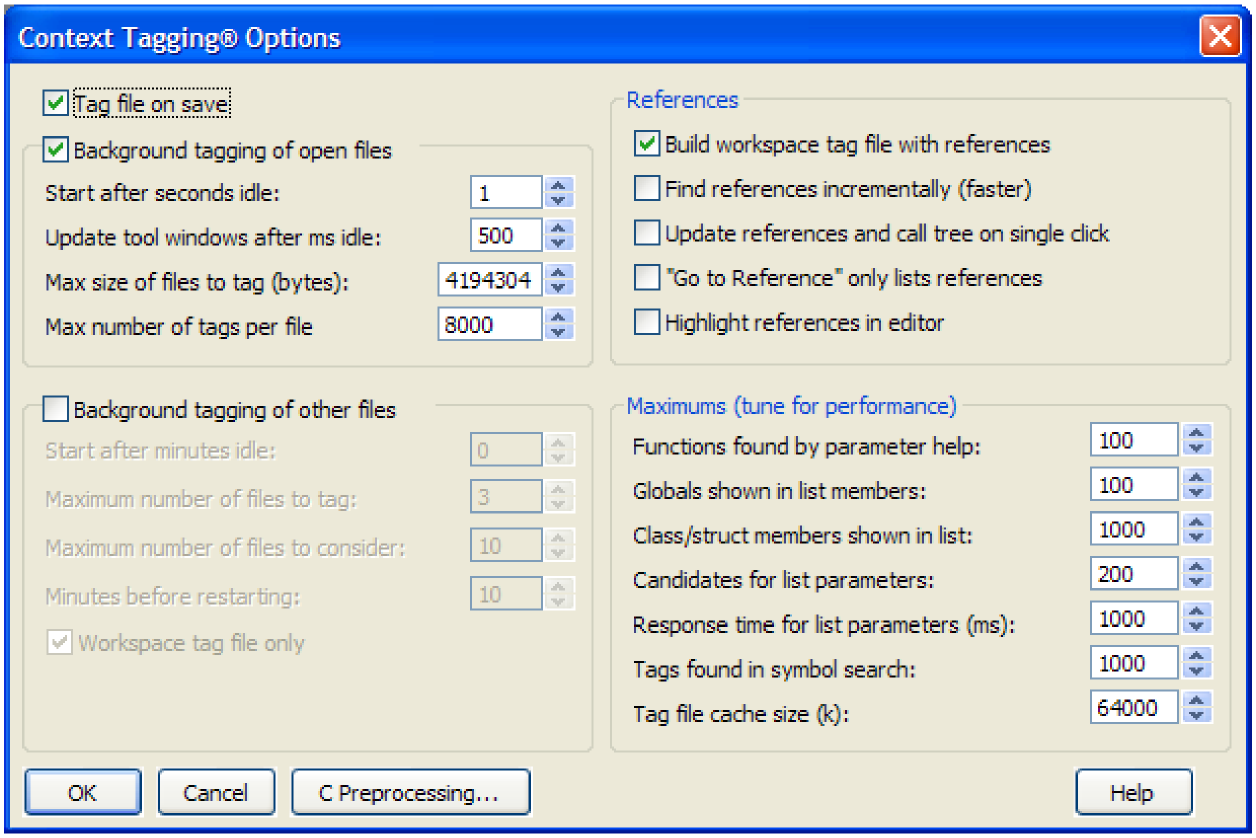
causes the rest of the line to be moved to the previous tab stop. If you are using a mode that has a syntax indent for each level that is different from the tab settings (see Indenting with Tabs), deselect this option. If you want your **Backspace** key to delete through tab characters one column at a time, select this option.

- **Treat leading spaces as tabs** - If selected, the commands **cursor_left** and **cursor_right** will move the cursor by tab stops when within leading space. If deselected, the **cursor_left** and **cursor_right** commands will move the cursor over by one physical character. The purpose of this option is to emulate the "feel" of real tab characters even if you only use spaces for indentation.

Context Tagging® Options Dialog

The Context Tagging® Options dialog allows you to set general parameters for the Context Tagging features. Here, you designate how the Context Tagging is done, how the references function within the application, and you can also tune the application to maximize performance. To set options, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Tagging Options** setting. The dialog box is displayed, as shown below. See Building and Managing Tag Files for more information on this topic.

Figure 10.48. Context Tagging® Options Dialog



[✓] Tag file on save

[✓] Background tagging of open files

Start after seconds idle:	1
Update tool windows after ms idle:	500
Max size of files to tag (bytes):	4194304
Max number of tags per file	8000

[ ] Background tagging of other files

Start after minutes idle:	0
Maximum number of files to tag:	3
Maximum number of files to consider:	10
Minutes before restarting:	10

[✓] Workspace tag file only

References

[✓] Build workspace tag file with references
[ ] Find references incrementally (faster)
[ ] Update references and call tree on single click
[ ] "Go to Reference" only lists references
[ ] Highlight references in editor

Maximums (tune for performance)

Functions found by parameter help:	100
Globals shown in list members:	100
Class/struct members shown in list:	1000
Candidates for list parameters:	200
Response time for list parameters (ms):	1000
Tags found in symbol search:	1000
Tag file cache size (k):	64000

The following settings are available:

- **Tag file on save** - When this option is selected, files are retagged when you save a modified file.
- **Background tagging of open files** - When this option is selected, all open files are retagged in the background if they have been modified.
- **Start after seconds idle** - When **Background tagging of buffers** is selected, re-tagging of buffers (opened files) starts after the user has not touched the keyboard or the mouse for this number of seconds.
- **Update view windows after ms idle** - Number of milliseconds to wait before updating the Outline and Preview views.
- **Max size of files to tag (bytes)** - Limits tagging to the files that have less than this number of bytes.
- **Max number of tags per file** - Limits the Outline view to files that have less than this number of tags, including statements if Statement Tagging is on. (See Statement Level Tagging for more information.)
- **Background tagging of other files** - Select this option if you want your tag files updated when another application modifies a file. This option is not on by default because it requires SlickEdit® Core to constantly perform disk I/O to check dates of files on disk.
- **Start after minutes idle** - When **Background tagging of files** is selected, re-tagging of files on disk starts after the user has not touched the keyboard or the mouse for this number of idle minutes.
- **Maximum number of files to tag** - When **Background tagging of files** is selected, this sets a limit to the number of files SlickEdit Core will re-tag in one pass.
- **Maximum number of files to consider** - When background re-tagging of files starts, you cannot use the editor until it is done with the amount of processing specified by this option or the option **Maximum number of files to tag**. The **Maximum number of files to consider** field specifies the number of file dates to compare. Specifying smaller maximum values means you will be able to regain access to the editor quicker and re-tagging will be slower. Specifying larger maximum values means it will take longer to regain access to the editor, but re-tagging will be quicker.
- **Minutes before restarting** - Specifies the number of minutes to wait, after background tagging has fully tagged all files, until background tagging can restart again. The default is 10 minutes.
- **Workspace tag file only** - When this option is selected, background tagging will cycle through only the workspace tag file. When not selected, background tagging will cycle through all of your extension-specific tag files (listed under **Tools** → **Tag Files**) in addition to the workspace tag file.

  Caution

  We do not recommend you run a second copy of the editor to perform tag file updating because it will cause tag file access problems. Under UNIX the editor will crash if multiple editors are updating the same tag files.

- **References** - The following settings apply to references:
  - **Build workspace tag file with references -** When selected, newly-created tag files are built with

support for symbol cross-references.

  - **Find references incrementally (faster)** - When unselected, all files with potential references are searched and analyzed so that the files which do not contain any references are removed. When this option is selected, querying references will appear to be faster, since analysis stops when a file is found containing a valid occurrence. However, you may see files which do not have any references to the symbol you are looking for listed in the References view.
  - **Update references and call tree on single click** - When this option is selected and you single click on a new symbol in the Classes, Outline, or Symbols view, the references in the References view are updated. This option is not on by default because it can cause problems with double-click.
  - **"Go To Reference" only lists references** - When selected, Go To Reference will search for references, but it will not jump immediately to the first reference. To find the next reference, invoke the **find_next** command (**Search** → **Find Next** or **Ctrl**+**G**).
  - **Highlight references in editor** - Select this option to have each reference highlighted within the file.
- **Maximums (tune for performance)** - You can tune Context Tagging ® performance and accuracy by adjusting these values. Higher values will find more tags but increase search time. Lower values improve performance but may cause tags to be omitted.
  - **Functions found by parameter help** - When you invoke function parameter Help, this setting limits the number of overloaded functions that will be displayed.
  - **Globals shown in list members** - When you invoke List Members, this setting limits the number of global symbols that will be inserted into the list.
  - **Class/struct members shown in list** - When you invoke class/struct members, this setting limits the number of members that will be displayed in the list.
  - **Candidates for list parameters** - When you invoke list parameters, auto-list compatible values are enabled. This setting limits the number of local variables and class members that will be evaluated to determine assignment compatibility.
  - **Response time for list parameters (ms)** - This setting is an upper limit on the amount of time SlickEdit Core will spend finding compatible parameters. Note that this is not a hard limit; in some cases, evaluating the assignment compatibility of a single variable can be time-consuming, especially when templates are involved.
  - **Tags found in search** - When you invoke the Find Tag dialog box (right-click in the Symbols View and select **Find Tag**) the number of tags found is limited by this setting. This setting also controls how many duplicate tags are tried when SlickEdit Core is attempting to evaluate the type of a symbol.
  - **Tag file cache size (k)** - You can improve tagging performance by adjusting the tag file cache size to better match the size of your tag files. Generally, a tag file cache size that matches the total size of the tag files being used will provide the best performance. For example, if the tag files for your source code and libraries adds up to 100 MB, you should set your cache size to 100 MB. You may have to experiment to find the optimum value. Use the recommendations below as a guide. Note that this is the same option that is found on the Virtual Memory Tab of the General Options dialog.

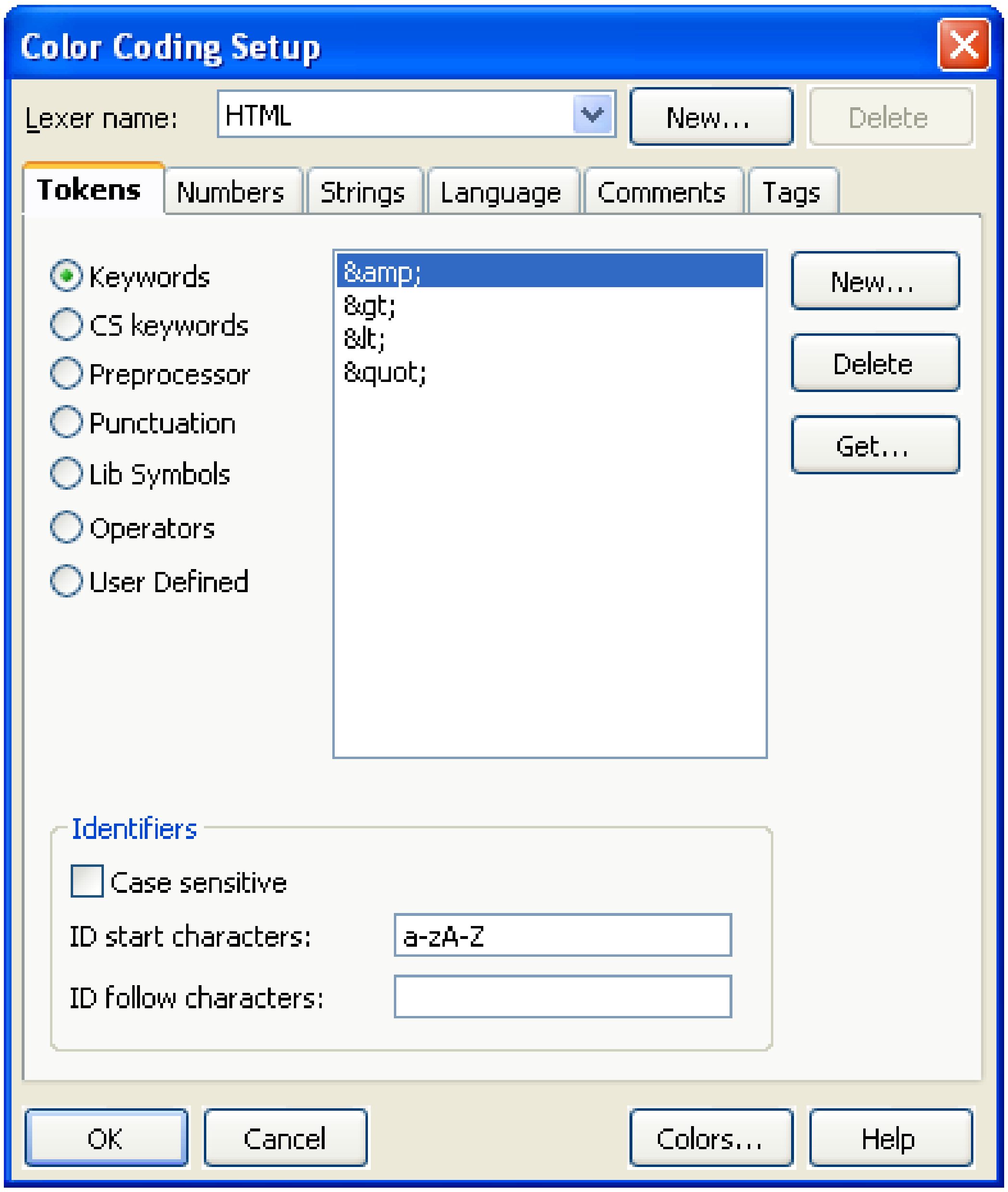
- **Minimum** - 8 MB
- **Default** - 64 MB
- **Ideal** - Sum of tag file sizes
- **Maximum** - 25% of physical system memory

- **C Preprocessing button** - Displays the C/C++ Preprocessing dialog box. Use this dialog to modify preprocessing so that Context Tagging can better analyze your code. See C/C++ Preprocessing for more information.

Color Coding Setup Dialog

The Color Coding Setup dialog provides the capability to specify colors for identifying your code. To configure color coding, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting. The Color Coding Setup box is displayed.

Figure 10.49. Color Coding Setup Dialog



Lexer name: HTML

[✓ Keywords] CS keywords Preprocessor Punctuation Lib Symbols Operators User Defined

&amp;
&gt;
&lt;
&quot;

Identifiers

☐ Case sensitive

ID start characters: a-zA-Z

ID follow characters:

General settings on this dialog box are described below (see Color Coding Setup Options - General Dialog Settings). Other options are categorized into the following tabs:

- Tokens Tab
- Numbers Tab
- Strings Tab
- Language Tab
- Comments Tab

- Tags Tab

Color Coding Setup Options - General Dialog Settings

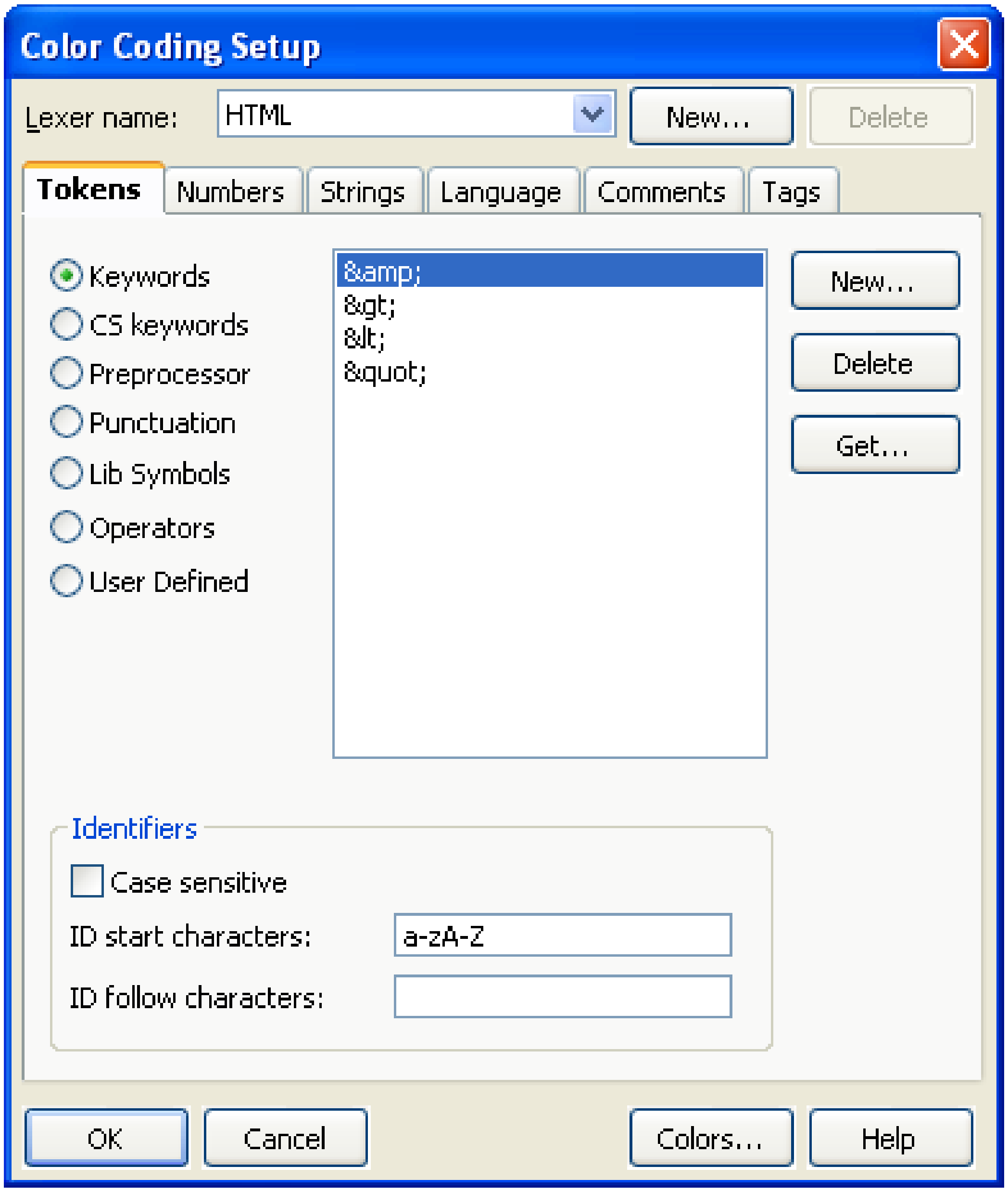
The following fields and buttons are available on the Color Coding Setup dialog:

- **Lexer name -** Select the language that you wish to work with from the **Lexer name** drop-down list. Be sure to select the lexer you wish to affect before using the tabs to make settings.
- **New -** Click this button, located next to **Lexer name**, to prompt for a lexer name to start a new language-specific color coding definition (see Creating Color Coding for a New Language).
- **Delete** - Click this button, located next to **Lexer name**, to remove a lexer name from the list. You can only delete user-created lexers.
- **Colors** - Click this button at the bottom of the dialog to display the Color Settings dialog, which allows you to specify the color for color coding elements and other editor elements (see Setting Colors for Screen Elements).

Tokens Tab

The **Tokens** tab, shown below, provides the capability to specify unique tokens to help you when working with your code. To access these settings, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Tokens** tab.

Figure 10.50. Color Coding Setup: Tokens Tab



Lexer name: HTML

Token type: [✓ Keywords] CS keywords, Preprocessor, Punctuation, Lib Symbols, Operators, User Defined

List:
&amp;
&gt;
&lt;
&quot;

Identifiers:
- Case sensitive: ☐
- ID start characters: a-zA-Z
- ID follow characters:

The following options are available:

- **Token type** - Select from the following token types:
  - **Keywords** - When this option is selected, the list box displays the words that have keyword color.
  - **CS keywords** - When this option is selected, the list box to the right displays case-sensitive words that have keyword color. These words are always case-sensitive even if the **Case Sensitive** check box is not selected.
  - **Preprocessor** - When this option is selected, the list box to the right displays preprocessor keywords in preprocessor color. All preprocessor keywords must start with the same character.

  - **Punctuation**, **Lib Symbols**, **Operators**, **User Defined** - When one of these options is selected, the list boxes to the right display the words associated with each.

- **Identifiers** - Select from the following options:

  - **Case sensitive** - Indicates whether identifiers are case-sensitive.

  - **ID start characters** - Specifies characters which are valid for the start of an identifier or any part of an identifier.

  - **ID follow characters** - Specifies additional characters which are valid after the first character of an identifier.

- **New** - Click this button on the **Tokens** tab to add one or more words. Separate each word with a space.

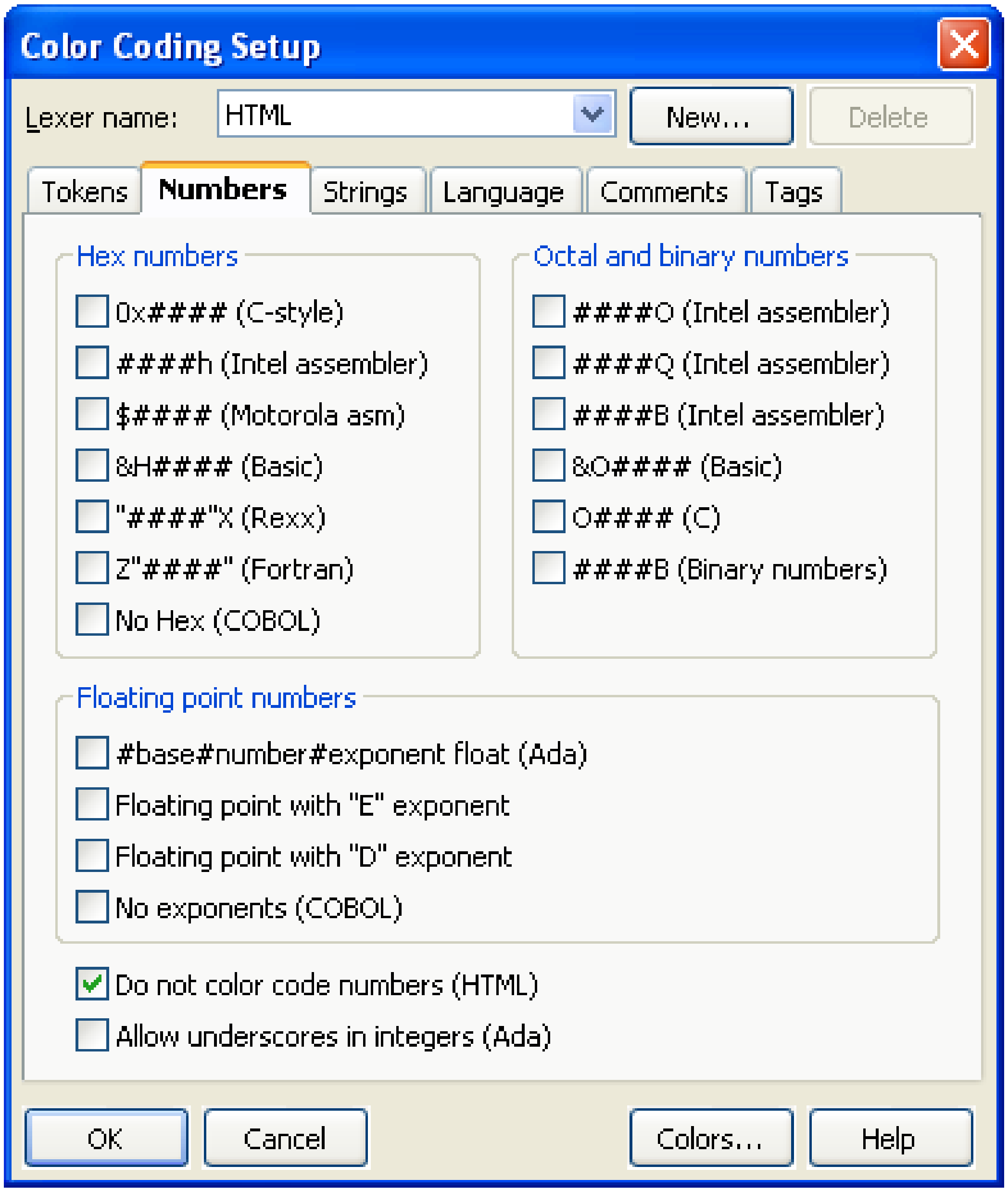
- **Delete** - Deletes selected items in a list box.

- **Get** - Click this button to add words by selecting the file that contains the keywords that you want to add.

Numbers Tab

The **Numbers** tab, shown below, provides options for color-coding numerical values when working with SlickEdit® Core. To access these options, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Numbers** tab.

Figure 10.51. Color Coding Setup: Numbers Tab



Hex numbers

- [ ] 0x#### (C-style)
- [ ] ####h (Intel assembler)
- [ ] $#### (Motorola asm)
- [ ] &H#### (Basic)
- [ ] "####"X (Rexx)
- [ ] Z"####" (Fortran)
- [ ] No Hex (COBOL)

Octal and binary numbers

- [ ] ####O (Intel assembler)
- [ ] ####Q (Intel assembler)
- [ ] ####B (Intel assembler)
- [ ] &O#### (Basic)
- [ ] O#### (C)
- [ ] ####B (Binary numbers)

Floating point numbers

- [ ] #base#number#exponent float (Ada)
- [ ] Floating point with "E" exponent
- [ ] Floating point with "D" exponent
- [ ] No exponents (COBOL)

- [✓] Do not color code numbers (HTML)
- [ ] Allow underscores in integers (Ada)

The following options are available:

- **Hex numbers**
  - **0x#### (C-Style)** - When this option is selected, text such as **0x123ABC** is color-coded in number color.
  - **####h (Intel assembler)** - When this option is selected, text such as **123ABCh** is color-coded in number color.
  - **$#### (Motorola)** - When this option is selected, text such as **$123ABC** is color-coded in number color.

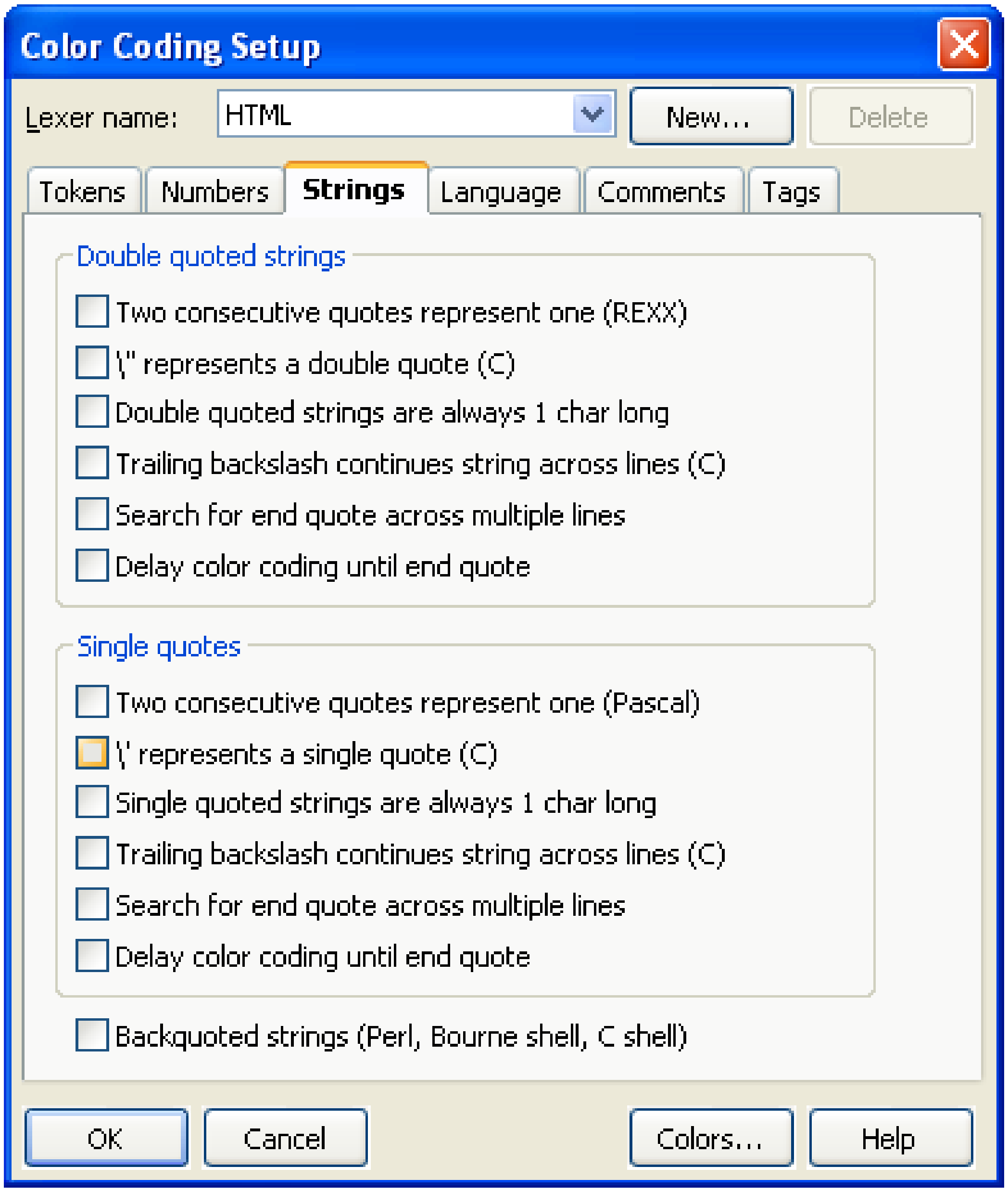
- **&H#### (Basic)** - When this option is selected, text such as **&H123ABC** is color-coded in number color.
- **"####"X (Rexx)** - When this option is selected, strings such as **"123ABC"X** are color-coded in number color.
- **Z#### (Fortran)** - When this option is selected, strings such as **Z"123ABC"** are color-coded in number color.
- **No Hex (COBOL)** - When this option is selected, text such as **123ABC** is not color-coded in number color. By default (for most languages set in **Language** tab) **123ABC** is color-coded in number color.

- **Floating point numbers**
  - **#base#number#exponent float (Ada)** - When this option is selected, text such as **#23#56#67** is color-coded in number color.
  - **Floating point with E exponent** - When this option is selected, text such as **123.4E24** is color-coded in number color.
- **Do not color code numbers (HTML)** - When this option is selected, text such as **123.4E24** and **123ABC** is not color-coded in number color. By default (for most languages set in the **Language** tab), **123.4E24** and **123ABC** is color-coded in number color.
- **Allow underscores in integers (Ada)** - When this option is selected, text such as **12_34** is color-coded in number color.

Strings Tab

The **Strings** tab contains options for color-coding strings. To access these settings, from the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Strings** tab.

Figure 10.52. Color Coding Setup: Strings Tab



Double quoted strings
- [ ] Two consecutive quotes represent one (REXX)
- [ ] \" represents a double quote (C)
- [ ] Double quoted strings are always 1 char long
- [ ] Trailing backslash continues string across lines (C)
- [ ] Search for end quote across multiple lines
- [ ] Delay color coding until end quote

Single quotes
- [ ] Two consecutive quotes represent one (Pascal)
- [ ] \' represents a single quote (C)
- [ ] Single quoted strings are always 1 char long
- [ ] Trailing backslash continues string across lines (C)
- [ ] Search for end quote across multiple lines
- [ ] Delay color coding until end quote

- [ ] Backquoted strings (Perl, Bourne shell, C shell)

The following options are available:

- **Double quoted strings**
  - **Two consecutive quotes represent one** - **""""** for REXX represents a string of length one which is a double quote character.
  - **Backslash double quote represents a double quote** - **"\""** for C represents a string of length one which is a double quote character.
  - **Double quoted strings are always 1 char long** - When this option is selected, this means that a double quote character is followed by an additional character and then the terminating double quote character. There is never more than one character between the start and end double quote.

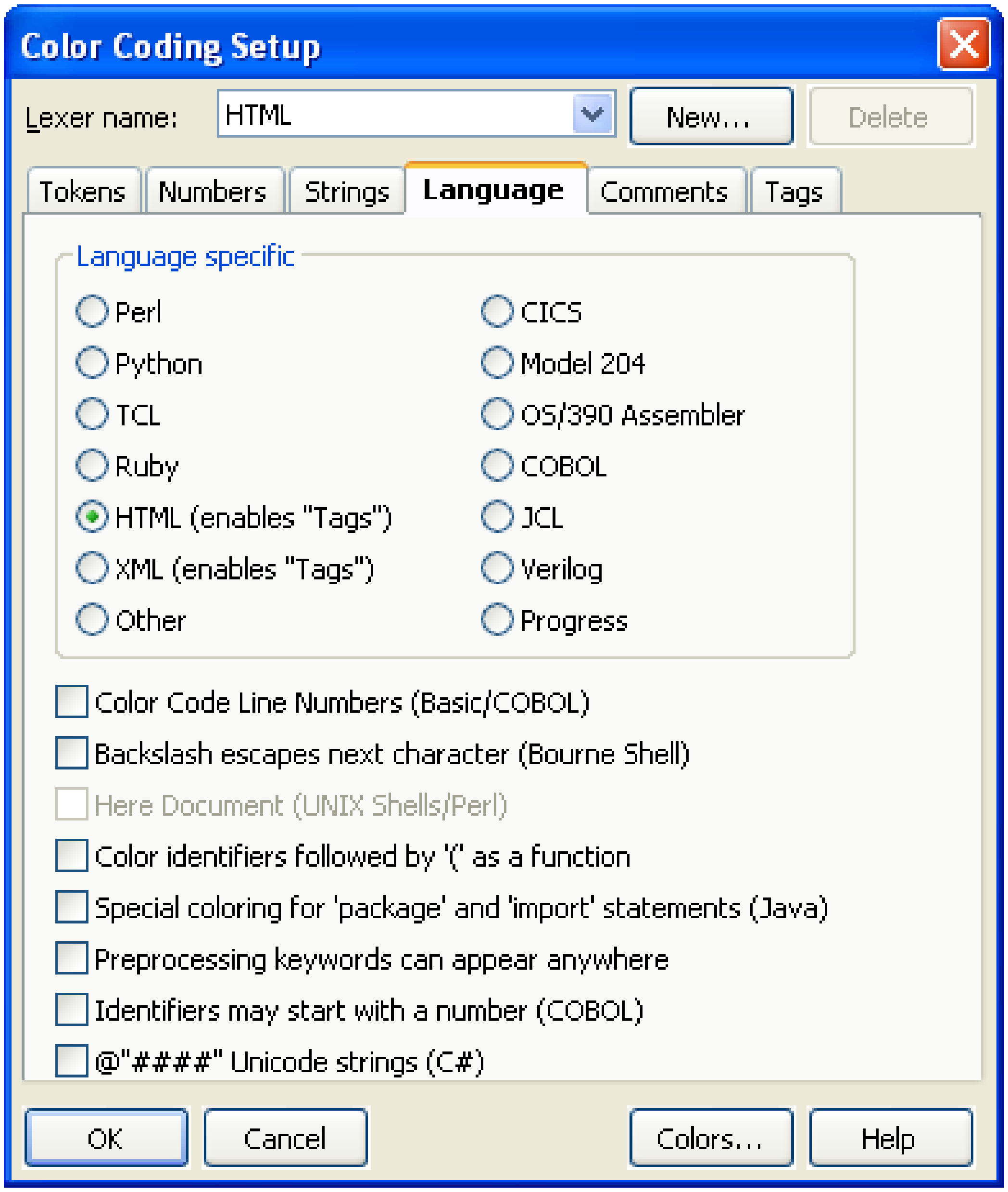
- **Trailing backslash continues string across lines** - When this option is selected, it indicates that searching for the terminating quote continues to the next line if the lines end with a backslash character.
- **Search for end quote across multiple lines** - When this option is selected, it indicates that the string does not have to be terminated on the same line as the start quote character.
- **Delay color coding until end quote** - When this option is selected, a string is not color-coded unless an end quote is seen on the same line. This does not support multi-line strings.

- **Single quotes**
  - **Two consecutive quotes represent one** - **''''** (four consecutive single quote characters) for Pascal represents a string of length one which is a single quote character.
  - **Backslash single quote represents a single quote** - **'\''** represents a string of length one which is a single quote character.
  - **Single quoted strings are always 1 char long** - When this option is selected, a single quote character is followed by an additional character and then the terminating single quote character. There is never more than one character between the start and end single quote.
  - **Trailing backslashes continues string across lines** - When this option is selected, it indicates that searching for the terminating quote continues to the next line if the lines end with a backslash character.
  - **Search for end quote across multiple lines** - When this option is selected, it indicates that the string does not have to be terminated on the same line as the start quote character.
  - **Delay color coding until end quote** - When this option is selected, a string is not color-coded unless an end quote is seen on the same line. This does not support multi-line strings.

Language Tab

The **Language** tab is used to set more language-specific color coding options. To access these settings, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Language** tab.

Figure 10.53. Color Coding Setup: Language Tab



Lexer name: HTML

Language specific

- ( ) Perl
- ( ) Python
- ( ) TCL
- ( ) Ruby
- [✓ HTML (enables "Tags")]
- ( ) XML (enables "Tags")
- ( ) Other
- ( ) CICS
- ( ) Model 204
- ( ) OS/390 Assembler
- ( ) COBOL
- ( ) JCL
- ( ) Verilog
- ( ) Progress

- [ ] Color Code Line Numbers (Basic/COBOL)
- [ ] Backslash escapes next character (Bourne Shell)
- [ ] Here Document (UNIX Shells/Perl)
- [ ] Color identifiers followed by '(' as a function
- [ ] Special coloring for 'package' and 'import' statements (Java)
- [ ] Preprocessing keywords can appear anywhere
- [ ] Identifiers may start with a number (COBOL)
- [ ] @"####" Unicode strings (C#)

The following options are available:

- **Language specific** - To avoid requiring complicated BNF for defining color-coding, some hardware language-specific adjustments have been added. You may be able to use one of these language-specific settings for another language, but there's no guarantee it will work.
- **Color code line numbers (Basic)** - When this option is selected, indicates that leading line numbers should be color-coded in line number color.
- **Backslash escapes next character (Bourne Shell)** - Backslash escapes the character that follows. This is useful for UNIX shell scripts which use **\"** to indicate that the double quote is not the start a string.

- **Here Document (UNIX Shells/Perl)** - Activates support for **HERE** documents. Note that if you prefix your terminator with one of our lexer names, you will get embedded language color-coding. Example of a **HERE** document in Perl, where **HTMLEOF** is used as the terminator to get HTML embedded language color-coding:

  ```
  print <<HTMLEOF;
  <HTML><HEAD><TITLE>...</TITLE></HEAD>
  <BODY>
  ...
  </BODY>
  </HTML>
  HTMLEOF
  ```

  Unknown languages are color-coded in string color. Embedded language colors are user-definable.

- **Color identifiers followed by (as a function** - For language such as C++, Java, and Slick-C®, an identifier followed by a parenthesis always indicates a function.

- **Special coloring for package and import statements (Java)** - When this option is selected, the Java syntax package and import statements are supported. This option is forced on for the lexer name Java. You must add the **package** and/or **import** keywords to your keyword list in order for this option to have any effect.

- **Preprocessing keywords can appear anywhere** - When this option is selected, preprocessing keywords are color-coded even if they are not only preceded by white space.

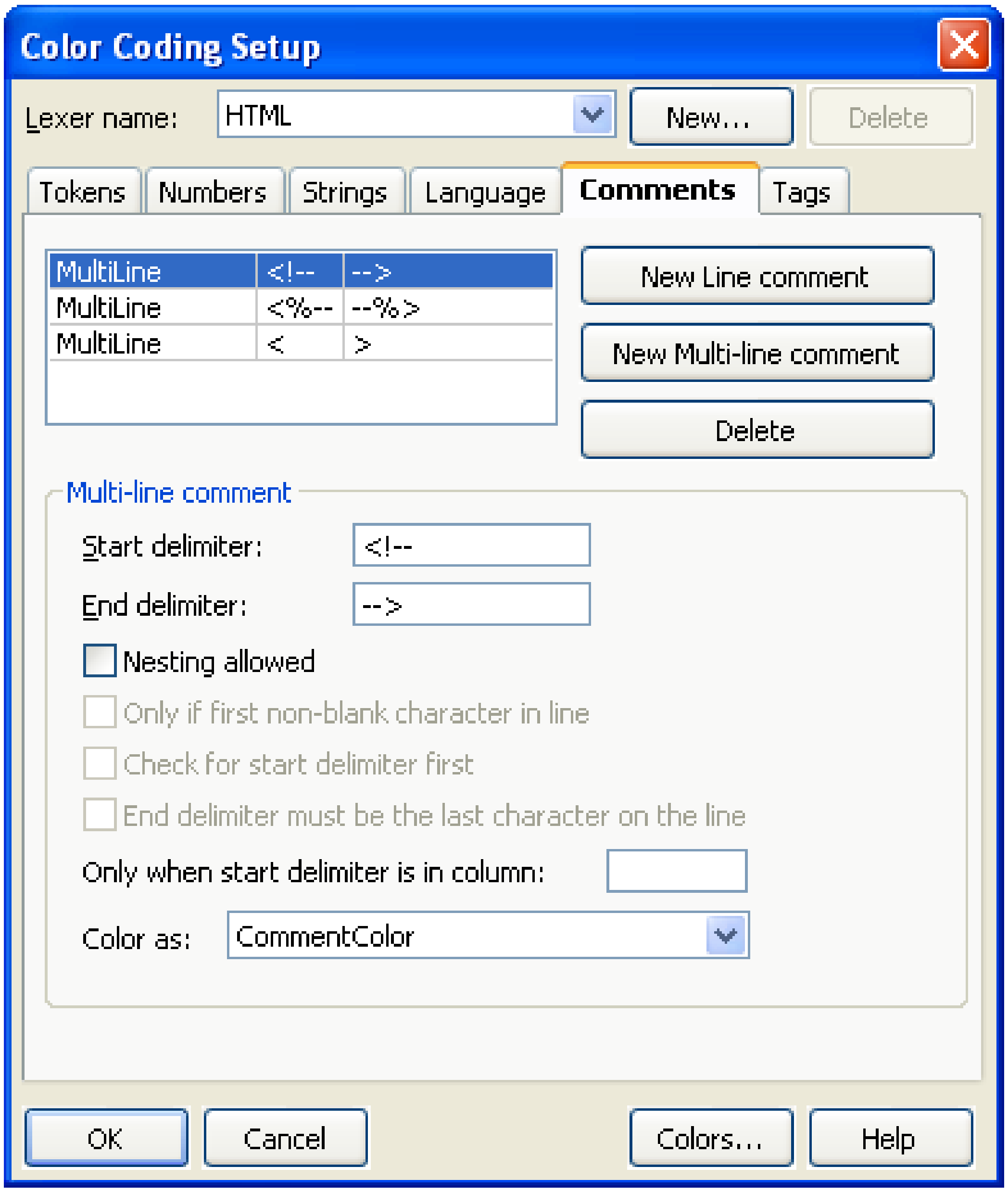
- **Identifiers may start with a number (COBOL)** - When this option is selected, identifiers may start with one or more decimal digits. By default, leading decimal digits indicate a number.

- **@"####" Unicode strings (C#)** - When this option is selected, text in the form of **@"any text"** is coded as a string.

Comments Tab

The **Comments** tab is used to set comment options for color-coding. To access these settings, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Comments** tab.

Figure 10.54. Color Coding Setup: Comments Tab



Lexer name: HTML

MultiLine	<!--	-->
MultiLine	<%--	--%>
MultiLine	<	>

Multi-line comment

Start delimiter: <!--

End delimiter: -->

☐ Nesting allowed

☐ Only if first non-blank character in line

☐ Check for start delimiter first

☐ End delimiter must be the last character on the line

Only when start delimiter is in column:

Color as: CommentColor

The following options are available:

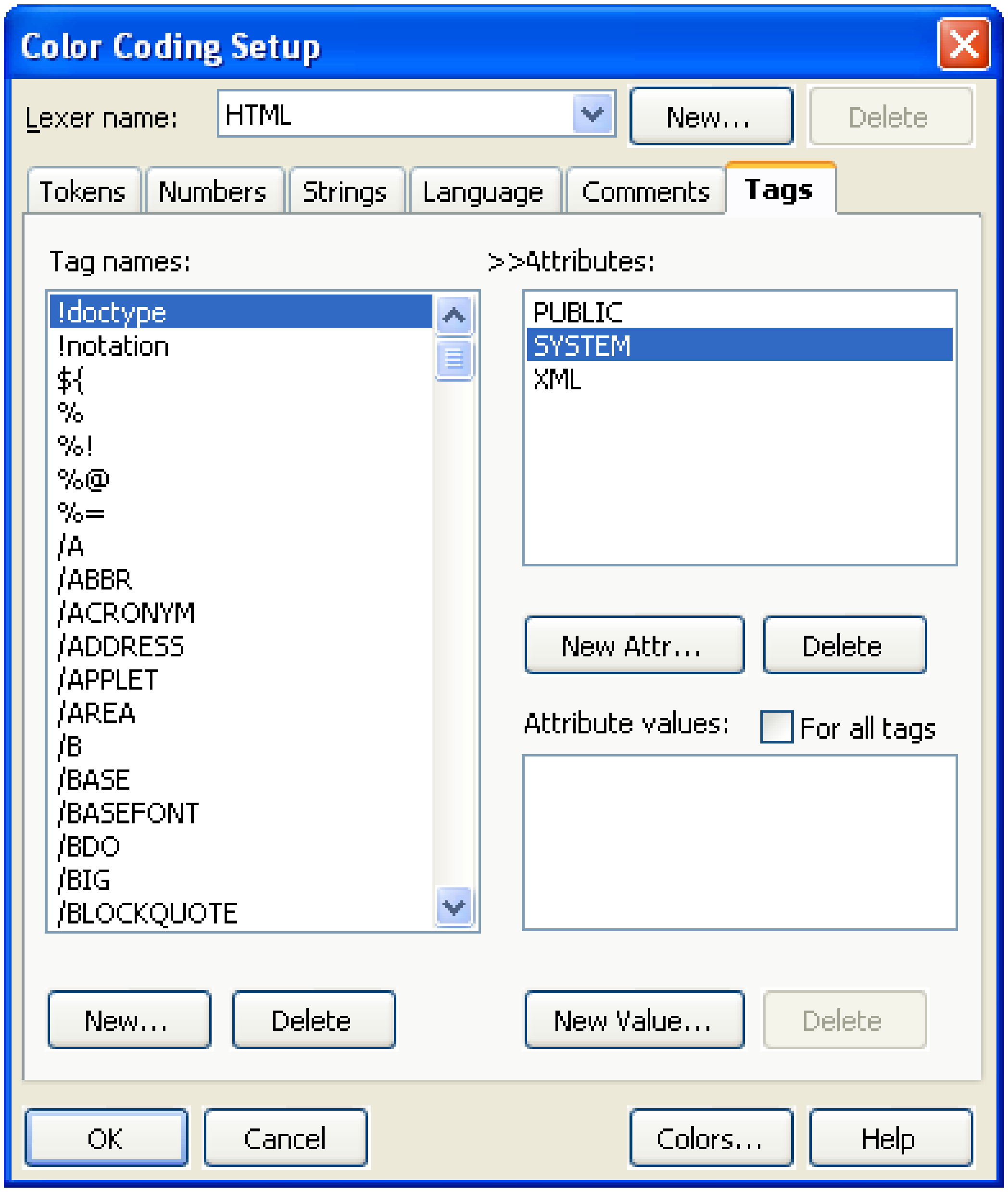
- **New Line comment** - Click this button to define new single-line comments.
- **New Multi-line comment** - Click this button to define new multi-line comments.
- **Line comment options** - The following line comment options apply to multi-line comments:
  - **Start delimiter** - Delimiter which starts the multi-line comment. Currently, the first character of this string cannot be a valid identifier character.
  - **End delimiter** - Delimiter which ends the multi-line comment. Currently, the first character of this string cannot be a valid identifier character.

- **Nesting allowed** - When this option is selected, this multi-line comment may have this multi-line comment inside it.
- **Only if first non-blank character in line** - Indicates the start delimiter must be the first non-blank character in the line in order to be considered the start of a comment. This check box is available only when the **Only when start delimiter is in column** text box is completed.
- **Check for start delimiter first** - When this option is selected, the lexer checks for the start delimiter before looking for other items. When this option is specified, the start delimiter is limited to one character in length.
- **End delimiter must be the last character on the line** - When this option is selected, the end delimiter text must occur at the end of a line to terminate the comment.
- **Only when start delimiter is in column** - Indicates that the start delimiter text starts a comment only when found in the column specified.
- **Color as** - Specifies color used for this comment. This color is not used when the start delimiter is immediately followed by one of the Comment Keywords. When the start delimiter is immediately followed by one of the Comment Keywords, keyword color is used.

Tags Tab

The **Tags** tab is used to set color-coding attributes when working with tagged-based languages such as HTML and XML. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting and select the **Tags** tab.

Figure 10.55. Color Coding Setup: Tags Tab



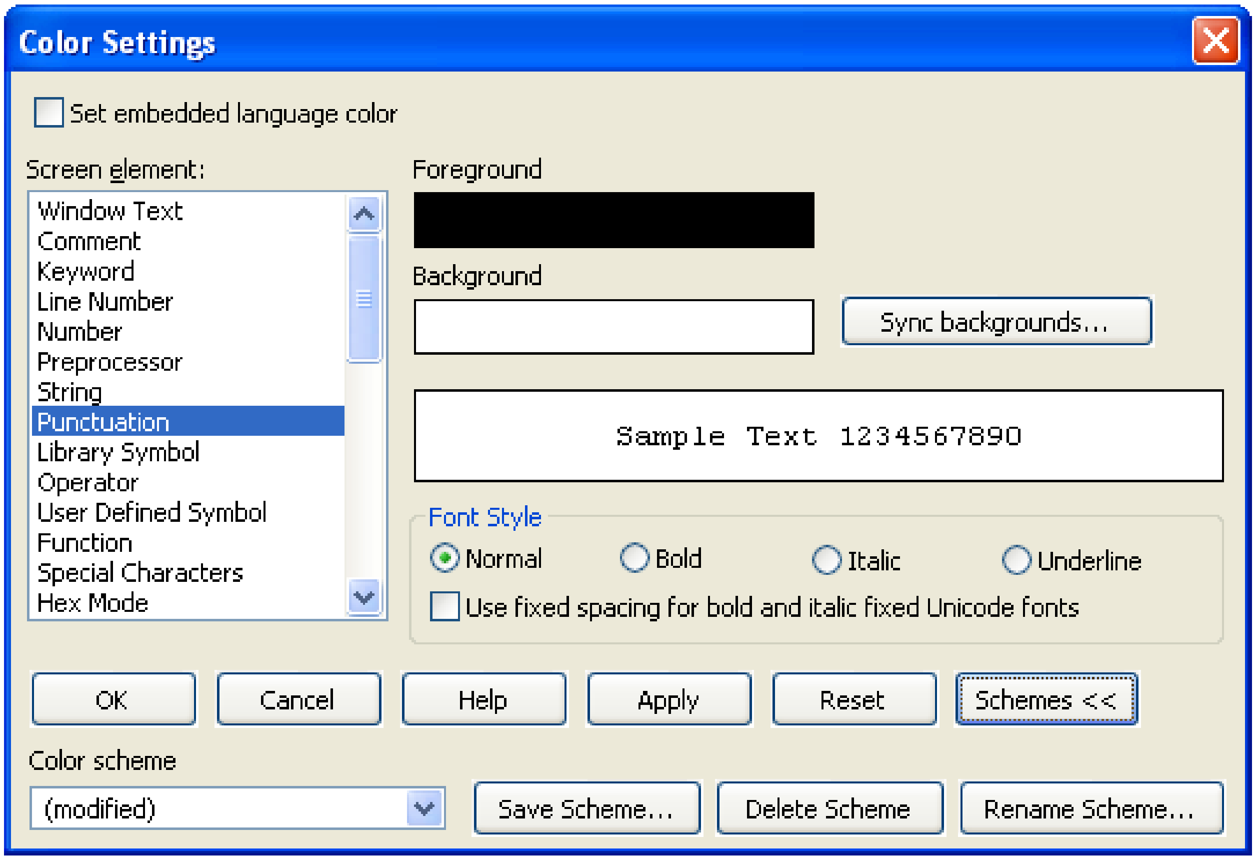
The following fields and settings are available:

- **Tag names** - List box containing tags for HTML or XML. To add or delete tags, use the **New** and **Delete** buttons below this list box.
- **>>Attributes** - List box containing attributes that belong to the tag selected in the **Tag names** list box. To add or delete attributes, use the **New Attr** and **Delete** buttons below this list box.
- **Attribute values** - List box contains the values for the specified tag and attribute. To add or delete a value, use the **New Value** and **Delete** buttons below this list box.
- **For all tags** - When this option is selected, the values in the **Attribute value** list box are applied to all tags that have the specified attribute.

Color Settings Dialog

The Color Settings dialog contains options for changing embedded language colors and the colors of screen elements. See Colors for more information about changing these colors. To display the Color Settings dialog, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color** setting.

Figure 10.56. Color Settings Dialog



Set embedded language color [ ]

Screen element:
- Window Text
- Comment
- Keyword
- Line Number
- Number
- Preprocessor
- String
- Punctuation [✓]
- Library Symbol
- Operator
- User Defined Symbol
- Function
- Special Characters
- Hex Mode

Font Style: [✓ Normal] Bold Italic Underline

Use fixed spacing for bold and italic fixed Unicode fonts [ ]

Color scheme: (modified)

The following options are available:

- **Set embedded language color** - When this option is selected, you can define the colors for source code (for example, JavaScript embedded in an HTML file). For HTML, the syntax color-coding recognizes the **<script language="???">** tag and uses embedded language colors for the new language. In addition, for Perl and UNIX shell scripts, you can prefix your **HERE** document terminator with one of the color-coding lexer names to get embedded language color-coding. For an example, see Setting Colors for Screen Elements
- **Screen element** - Select the screen element before changing the **Foreground** and **Background** colors. Most of the screen element items are obvious except for those in the following list:
  - **Window Text** - This is the color of other text which is not a specific syntax element.

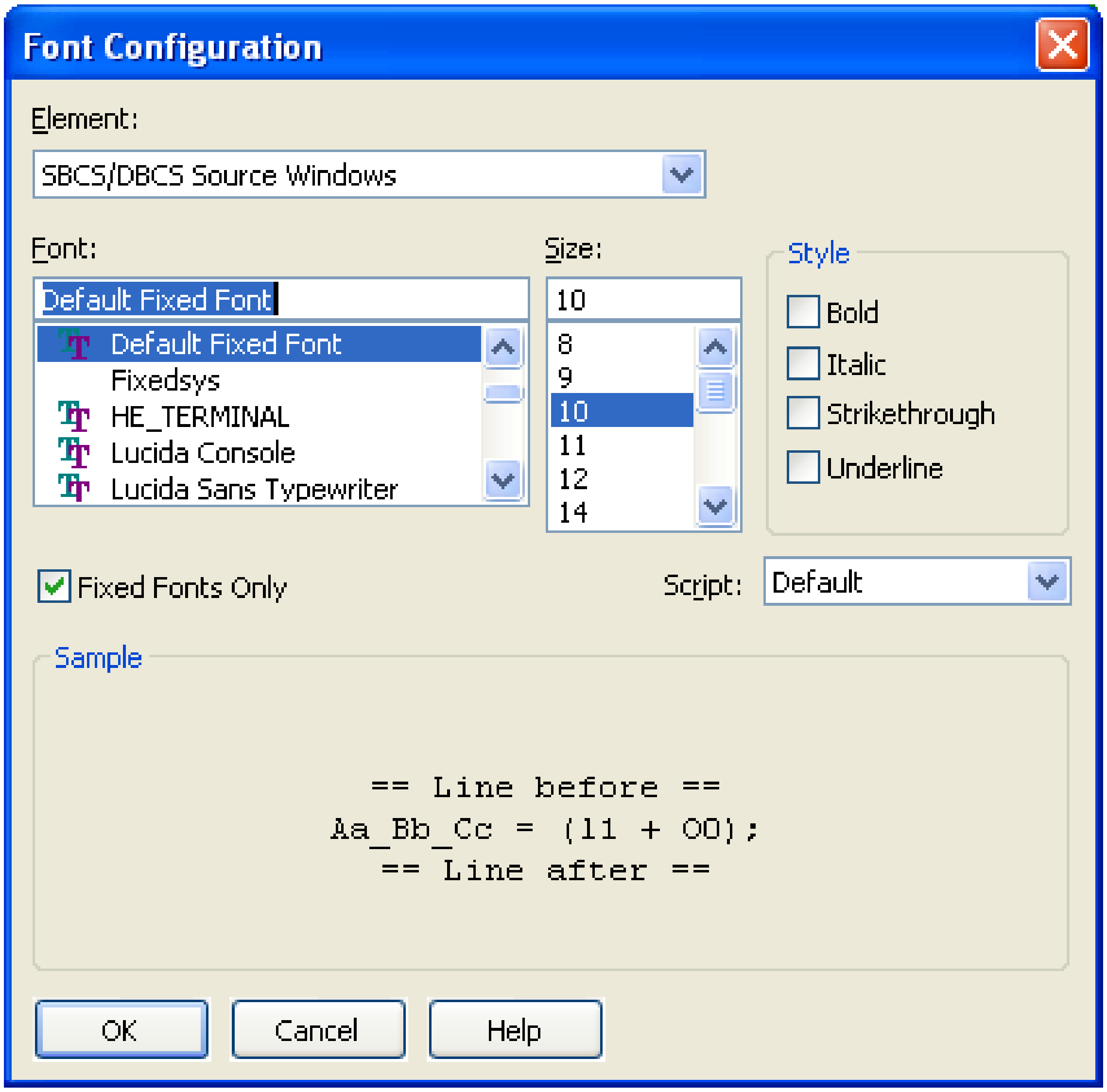
  - **Attribute (HTML only)** - This is the color used for a recognized attribute of an HTML tag. For example, the **src** attribute of the **img** tag gets this color.
  - **Cursor** - This screen element is displayed in the active edit window when the cursor is placed on the command line. It is not the color of the blinking cursor.
  - **Current Line**, **Current Selected Line**, **Selection** - SlickEdit Core will attempt to render these elements using your normal color settings for the **Foreground** color. The selected **Foreground** color will only be used if there is not enough contrast between the font colors to be readable. It is best to specify a **Background** color for these elements that is as close as possible to your normal background color, ensuring that the color-coded fonts are still easy to read.
- **Foreground**/**Background** - Click the color squares to change colors for the selected element. The Color Picker dialog is displayed, allowing you to pick a color from the palette or set your own custom color using RGB values.
- **Use system default** - When this option is selected, the operating system's default colors are used. Currently, this check box is only available for the **Status** and **Message** fields. For UNIX, the system default colors are selected by the editor and not the operating system.
- **Sync backgrounds** - Click to apply the current **Background** color as the **Background** color for other elements. The Select Colors to Update dialog appears, from which you can select specific elements to affect.
- **Font Style** - For color-coded elements, you may choose whether the element is normal, bolded, italicized, or underlined. For example, keywords are bold by default.
- **Use fixed spacing for bold and italic fixed Unicode fonts** - (Unicode support required) When this option is selected, and a fixed font is selected for a Unicode source window, bold and italic color-coding is supported. Since this requires the Unicode text to be converted to the active code page, some characters may be displayed incorrectly. The current editor display engine ignores bold and italic settings for proportional fonts or fixed Unicode fonts (which are treated like proportional fonts).
- **OK** - Applies color changes and closes the Color Settings dialog.
- **Cancel** - Restores all colors to the values they were when the Color Settings dialog box was first displayed in the current editor session.
- **Apply** - Updates all modified screen elements, useful for previewing what the colors look like. The dialog box is not closed so that you can make further changes if you wish.
- **Reset** - Restores all colors to the values they were when the editor was invoked.
- **Schemes** - Expands the Color Settings dialog box so you can try different color schemes, or define your own. See Using Color Schemes for more information.

Font Configuration Dialog

The Font Configuration dialog contains options for changing the fonts and font styles of screen elements.

See Fonts for more information about changing fonts and a list of recommended fonts. To display the Font Configuration dialog, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Font** setting.

Figure 10.57. Font Configuration Dialog



Element: SBCS/DBCS Source Windows

Font: Default Fixed Font

Size: 10

Fixed Fonts Only [✓]

Script: Default

```
== Line before ==
Aa_Bb_Cc = (11 + 00);
== Line after ==
```

The following settings are available:

- **Screen Elements** - The **Element** drop-down list of the Font Configuration dialog contains the screen elements for which fonts can be changed. When an element is selected, the font type and size will automatically adjust to the current settings for that element, and a preview of the font will be displayed in the **Sample** area. Select from the following elements:
  - **Command Line** - The SlickEdit® Core command line displayed at the bottom of the application window.

  - **Status Line** - For status messages displayed at the bottom of the application window.
  - **SBCS/DBCS Source Windows -** Editor windows that are displaying non-Unicode content (for example, plain text).
  - **Hex Source Windows -** Editor windows that are being viewed in Hex mode (**View** → **Hex**).
  - **Unicode Source Windows -** Editor windows that are displaying Unicode content (for example, XML).
  - **File Manager Windows** - Controls the display of the SlickEdit Core File Manager (**File** → **File Manager**).
  - **Diff Editor Source Windows** - The editor windows used by DIFFzilla®.
  - **Parameter Info** - Controls the fonts used to display pop-ups with information about symbols and parameters.
  - **Parameter Info Fixed** - Used when SlickEdit Core needs to display a fixed-width font for parameter info, such as when displaying example code.
  - **Selection List** - The font used for selection lists, like the buffer list (**Document** → **List Buffers**).
  - **Dialog** - Controls the font used in SlickEdit Core dialogs and view windows.
  - **HTML Proportional** - The default font used by HTML controls for proportional fonts. In particular, this affects the Version Control History dialog, the About SlickEdit Core dialog, and the Cool Features dialog.
  - **HTML Fixed -** The default font used by HTML controls for fixed-space fonts.
- **Font** and **Size** - The **Font** and **Size** fields allow you to make typeface and point size changes to the selected screen element. The fonts that are listed are the fonts that are installed on your computer.
- **Style** - Styles, such as bold and italic, can be set to affect the selected font.
- **Sample area -** This area provides a preview of the selected font, size, and style.
- **Fixed Fonts Only** - Select this option to display only fixed fonts in the **Font** field. By default, this option is not selected.
- **Script (Windows only) -** Choose **Default** unless you are editing files that have characters not in the active code pages. Choose **Western** to use the typical English characters.

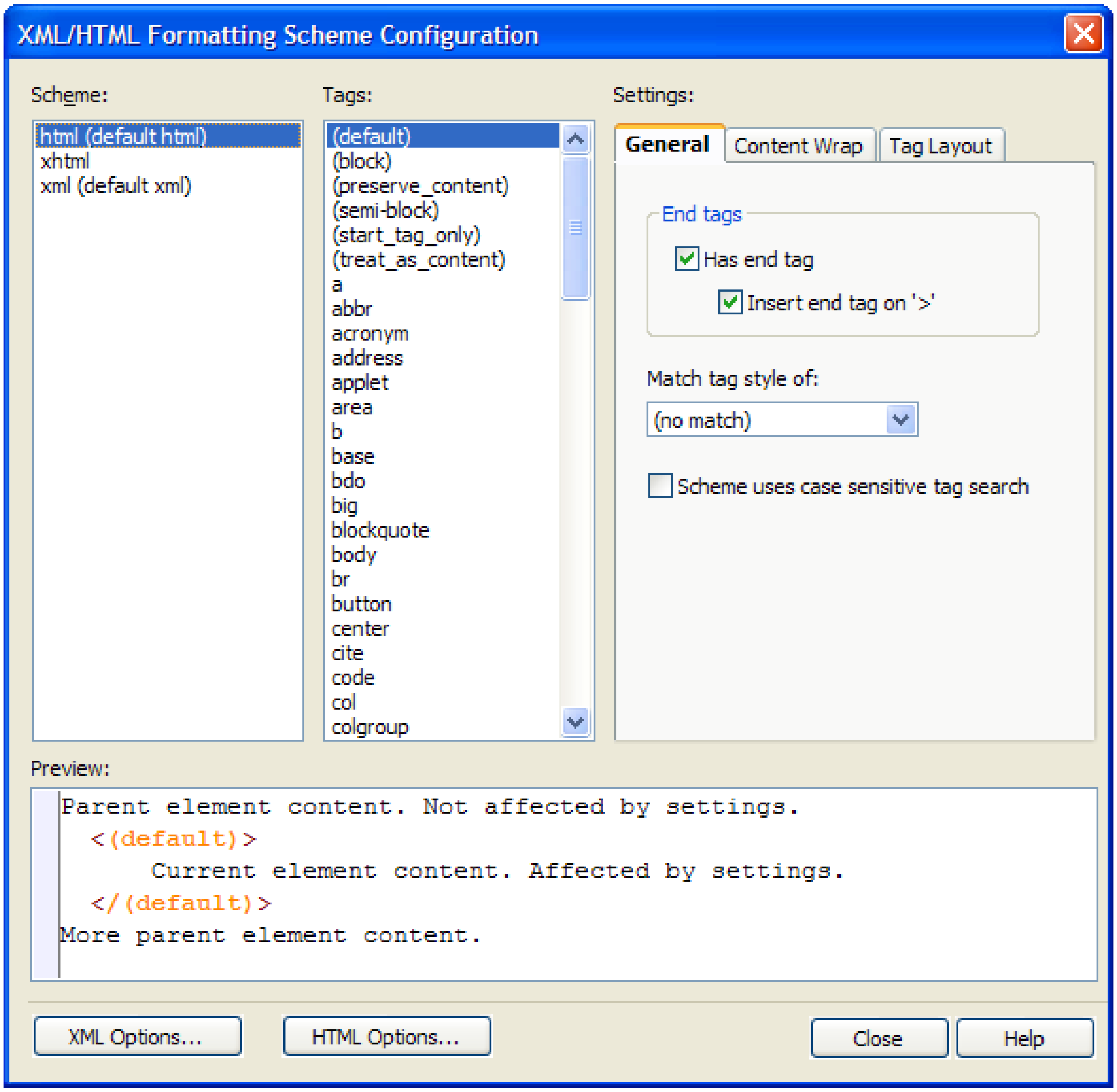
XML/HTML Formatting Dialog

This dialog is used to configure the way XML and HTML code is automatically formatted as you edit. Note that XML/HTML Formatting must be enabled in order for these settings to work.

To display the XML/HTML Formatting dialog, click **Window** → **Preferences**, expand **SlickEdit** and click

General in the tree, then double-click the **XML/HTML Formatting** setting. Alternatively, use the **xml_html_options** command to display the dialog.

Figure 10.58. XML/HTML Formatting Dialog



```
Parent element content. Not affected by settings.
  <(default)>
      Current element content. Affected by settings.
  </(default)>
More parent element content.
```

See XML/HTML Formatting for information about enabling formatting and working with this feature. See Formatting Settings for information about the General, Content Wrap, and Tag Layout tabs.

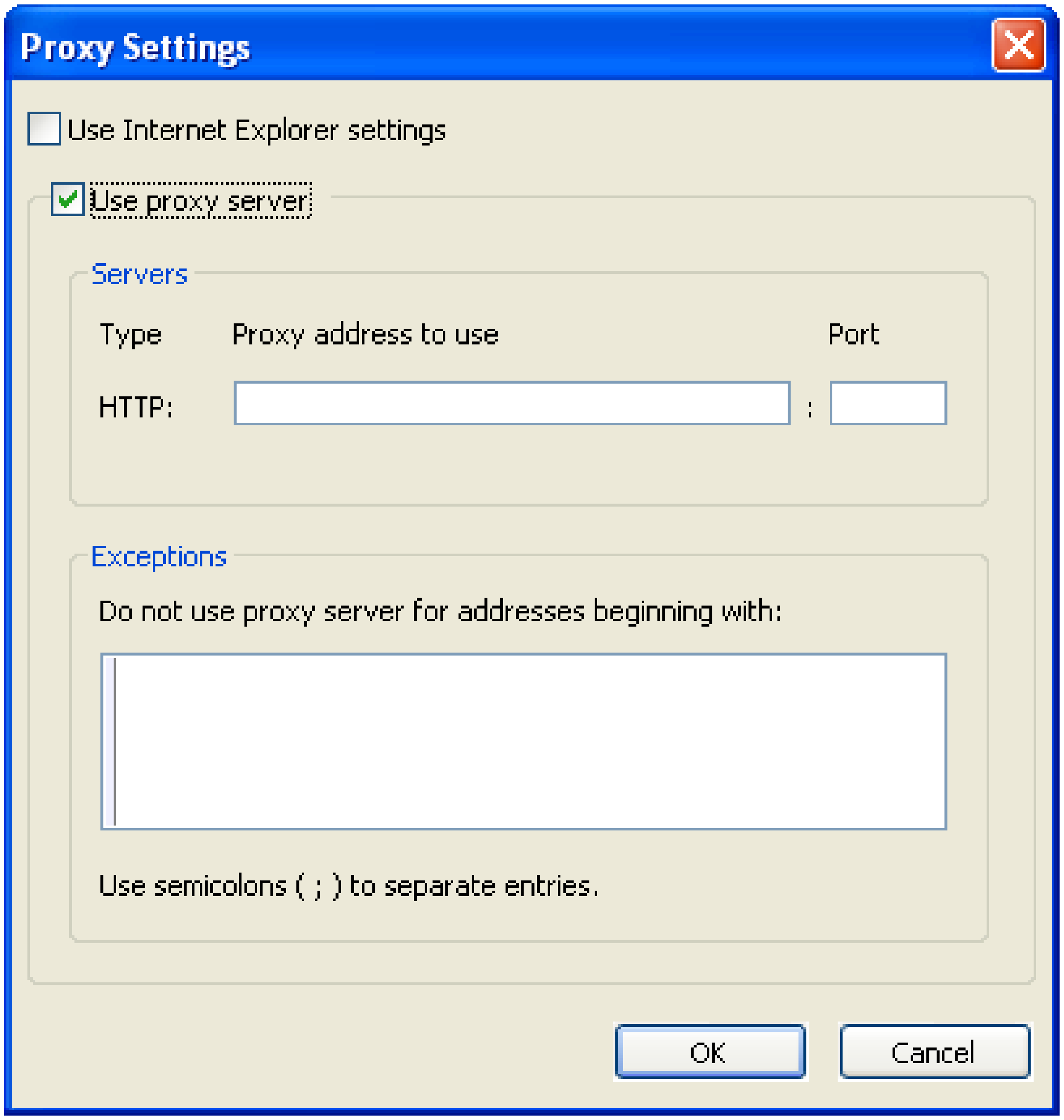
URL Mappings Dialog

This dialog allows you to map URLs to a different location. See URL Mappings for information.

Proxy Settings Dialog

If you need to configure proxy settings for when SlickEdit® Core needs to use an Internet connection, use the Proxy Settings dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Proxy Settings** setting).

Figure 10.59. Proxy Settings Dialog


Proxy Settings
Use Internet Explorer settings
Use proxy server
Servers
Type
Proxy address to use
Port
HTTP:
:
Exceptions
Do not use proxy server for addresses beginning with:
Use semicolons (;) to separate entries.
OK
Cancel

The following options are available:

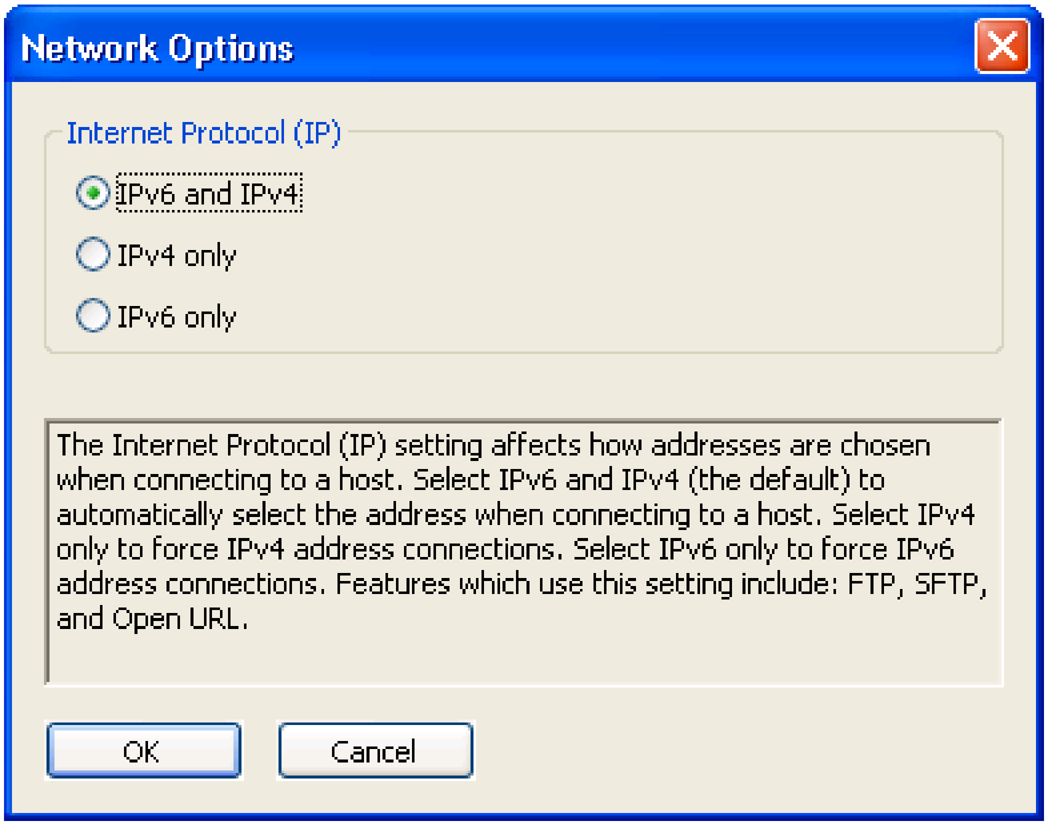
- **Use Internet Explorer settings** - If selected, Internet Explorer settings will be used, and the remaining options and fields on the dialog will be unavailable.
- **Use proxy server** - If selected, the remaining options and fields will become available.

- **Servers** - Indicates the proxy address and port to use.
- **Exceptions** - Indicates the Web site addresses that the proxy server should disregard. Separate entries with semicolons (;).

Network Options Dialog

This dialog allows you to set the Internet Protocol (IP) version. To access it, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Network Options** setting.

Figure 10.60. Network Options Dialog



[✓ IPv6 and IPv4] IPv4 only IPv6 only

The Internet Protocol (IP) setting affects how addresses are chosen when connecting to a host. Select IPv6 and IPv4 (the default) to automatically select the address when connecting to a host. Select IPv4 only to force IPv4 address connections. Select IPv6 only to force IPv6 address connections. Features which use this setting include: FTP, SFTP, and Open URL.

The Internet Protocol (IP) setting affects how addresses are chosen when connecting to a host. Select **IPv6** and **IPv4** (the default) for SlickEdit® Core to automatically select the address when connecting to a host. Select **IPv4** only to force IPv4 address connections. Select **IPv6** only to force IPv6 address connections. Features that use this setting include FTP and SFTP.

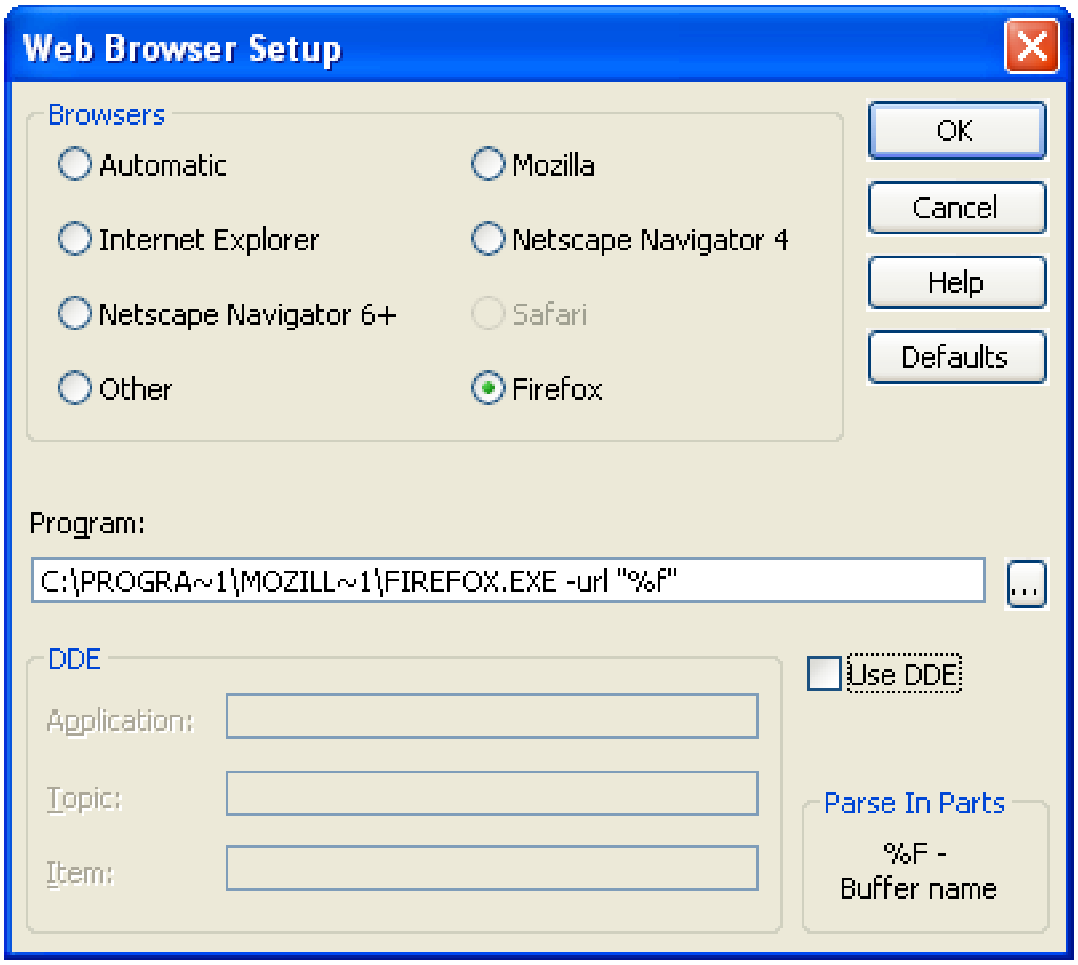
Web Browser Setup Dialog

The Web Browser Setup dialog contains options for specifying the browser to use when SlickEdit® Core needs to launch one. To access this dialog, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Web Browser Setup** setting.

Note

This configuration does not apply to the Help system.

Figure 10.61. Web Browser Setup Dialog


Web Browser Setup

Browsers

- Automatic
- Mozilla
- Internet Explorer
- Netscape Navigator 4
- Netscape Navigator 6+
- Safari
- Other
- [✓ Firefox]

Program: C:\PROGRA~1\MOZILL~1\FIREFOX.EXE -url "%f"

DDE

Application:

Topic:

Item:

Use DDE [ ]

Parse In Parts

%F - Buffer name

The following settings are available:

- **Browsers** - Select which Web browser you want to use. Selecting a preferred browser automatically sets the defaults for the other items in the Web Browser Setup dialog box. Note the following:
  - **Windows** - Your Web browser is automatically detected.
  - **Linux** - You need to specify which Web browser you are using. In addition, you need to give the full path to the program executable.
- **Program** - Indicates the program to run. You may specify a **%F** in this text box or any of the other text

boxes on this dialog box to have the HTML file name inserted into the command that is executed.

- **DDE -** The **Application**, **Topic**, and **Item** text boxes specify **DDE XTYP_REQUEST** parameters and are used only if the **Use DDE** option is selected.

FTP Options Dialog

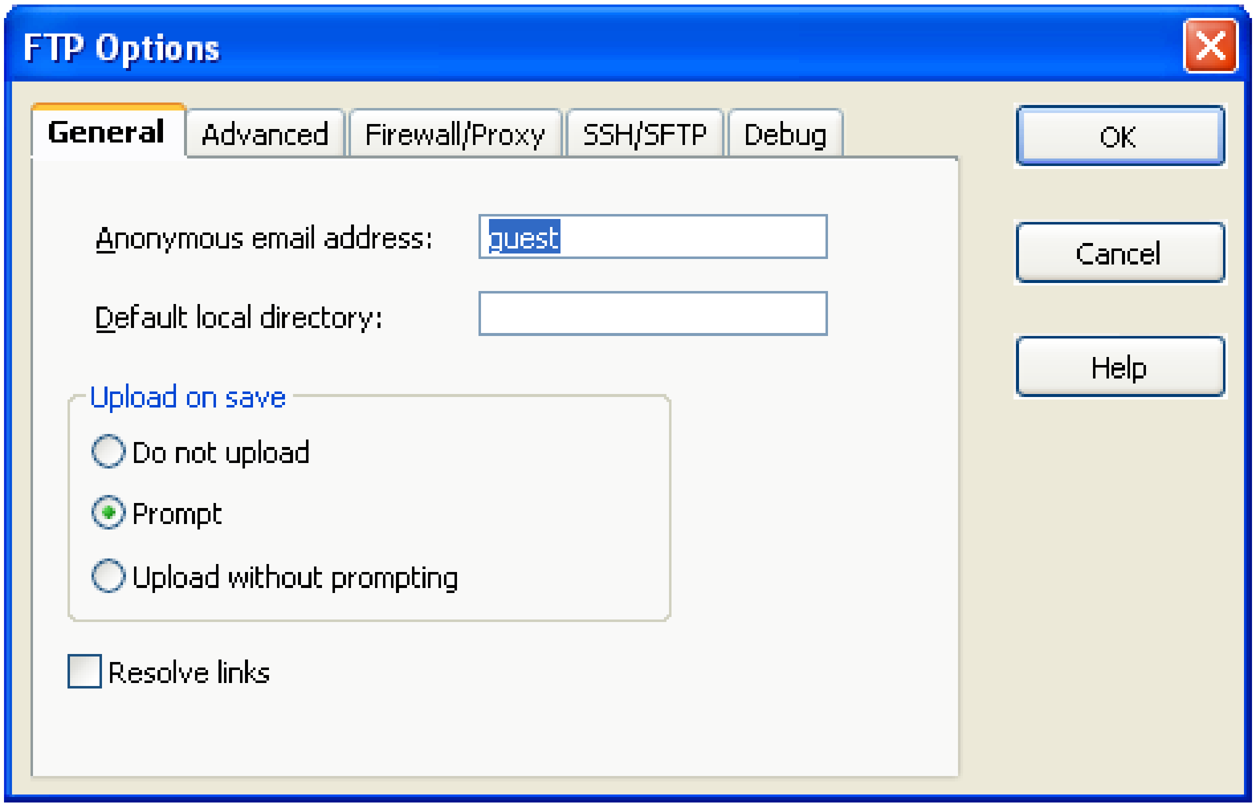
This dialog is used to configure default FTP options. To open it, on the FTP view window, click the button to start a new session. When the Connect dialog is displayed, click the **Default Options** button. The dialog is categorized into the following tabs:

- General Tab
- Advanced Tab
- Firewall/Proxy Tab
- SSH/SFTP Tab
- Debug Tab

General Tab

This tab on the FTP Options Dialog is used to configure general FTP settings.

Figure 10.62. FTP Options: General Tab



Anonymous email address: guest

Default local directory:

Upload on save

Do not upload

[✓ Prompt]

Upload without prompting

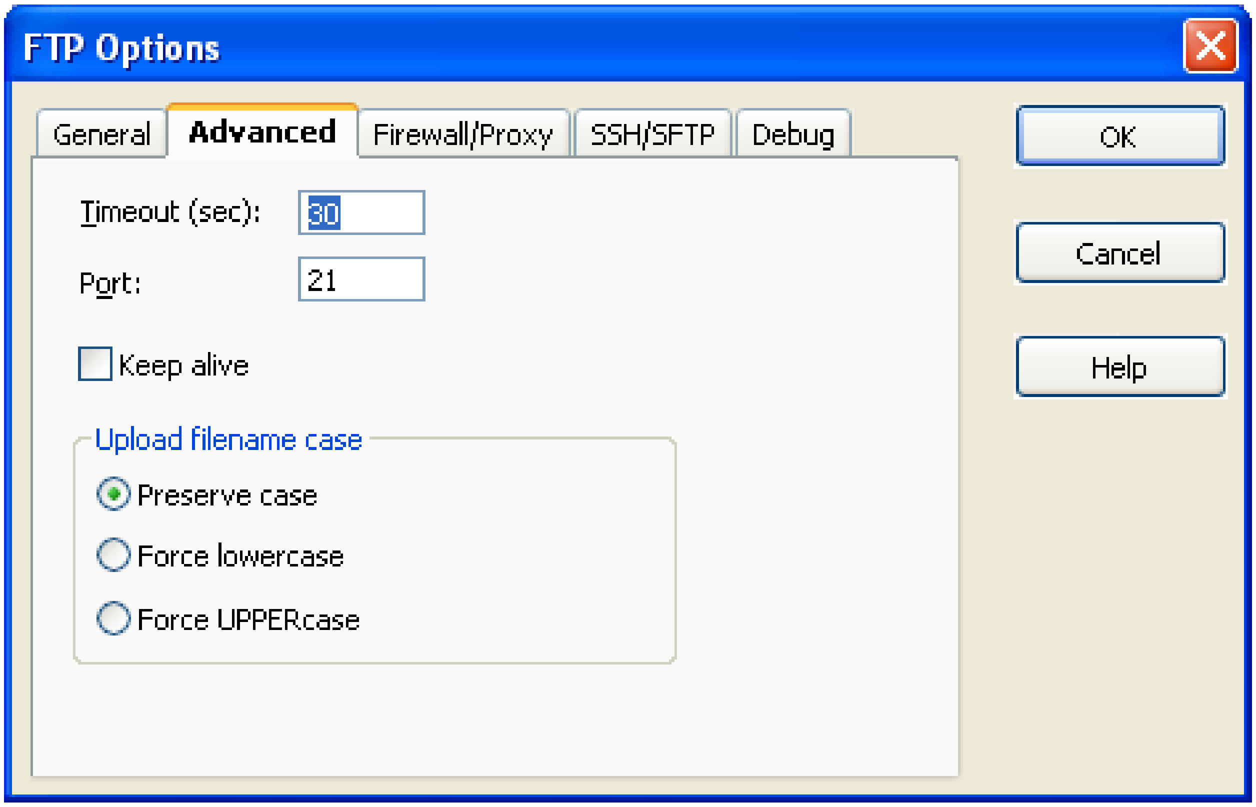
Resolve links

- **Anonymous e-mail address** - Default password used for anonymous logins.
- **Do not upload** - When on, saving an FTP file will not upload the file.
- **Prompt** - When on, a prompt appears to upload when an FTP file is saved to specify ASCII or Binary transfer type.
- **Upload without prompting** - When on, saving an FTP file will upload the file. The same transfer type used to open the file is used to upload the file.
- **Resolve links** - Default for adding a new connection profile. Resolves symbolic links on remote host.

Advanced Tab

This tab on the FTP Options Dialog is used to configure advanced FTP settings.

Figure 10.63. FTP Options: Advanced Tab



Timeout (sec): 30

Port: 21

☐ Keep alive

Upload filename case

(●) Preserve case

( ) Force lowercase

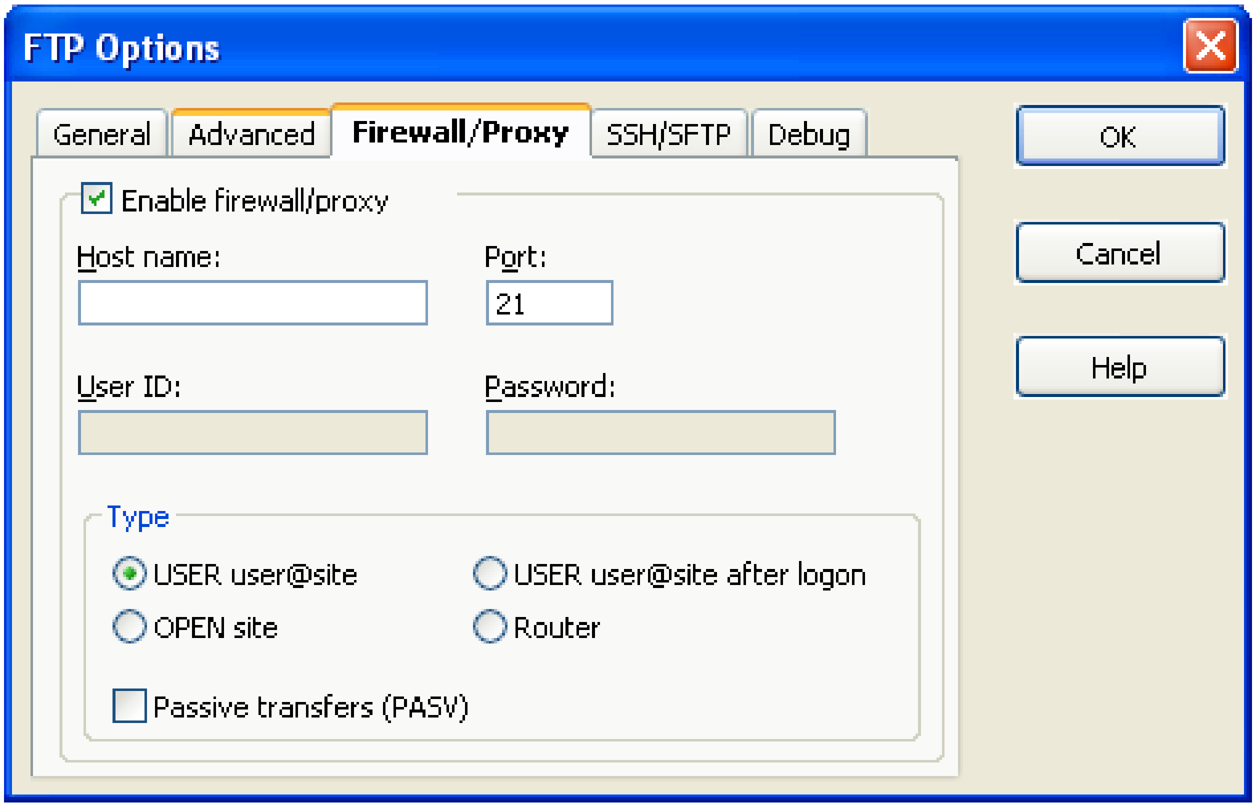
( ) Force UPPERcase

- **Timeout (sec)** - Default used when adding a new connection profile. Specifies the wait time for a reply from the FTP server.
- **Port** - Default used when adding a new connection profile.
- **FTP port** - By default, this is **21**.
- **Keep alive** - Default used when adding a new connection profile. Keeps a connection alive even when idle.
- **Upload filename case** - Default used when adding a new connection profile. Indicates what file case should be used for the remote file name based on the local file name.

Firewall/Proxy Tab

This tab on the FTP Options Dialog is used to configure firewall and proxy settings for FTP.

Figure 10.64. FTP Options: Firewall/Proxy Tab


FTP Options

General | Advanced | Firewall/Proxy | SSH/SFTP | Debug

[✓] Enable firewall/proxy

Host name:

Port: 21

User ID:

Password:

Type

(●) USER user@site
( ) USER user@site after logon
( ) OPEN site
( ) Router

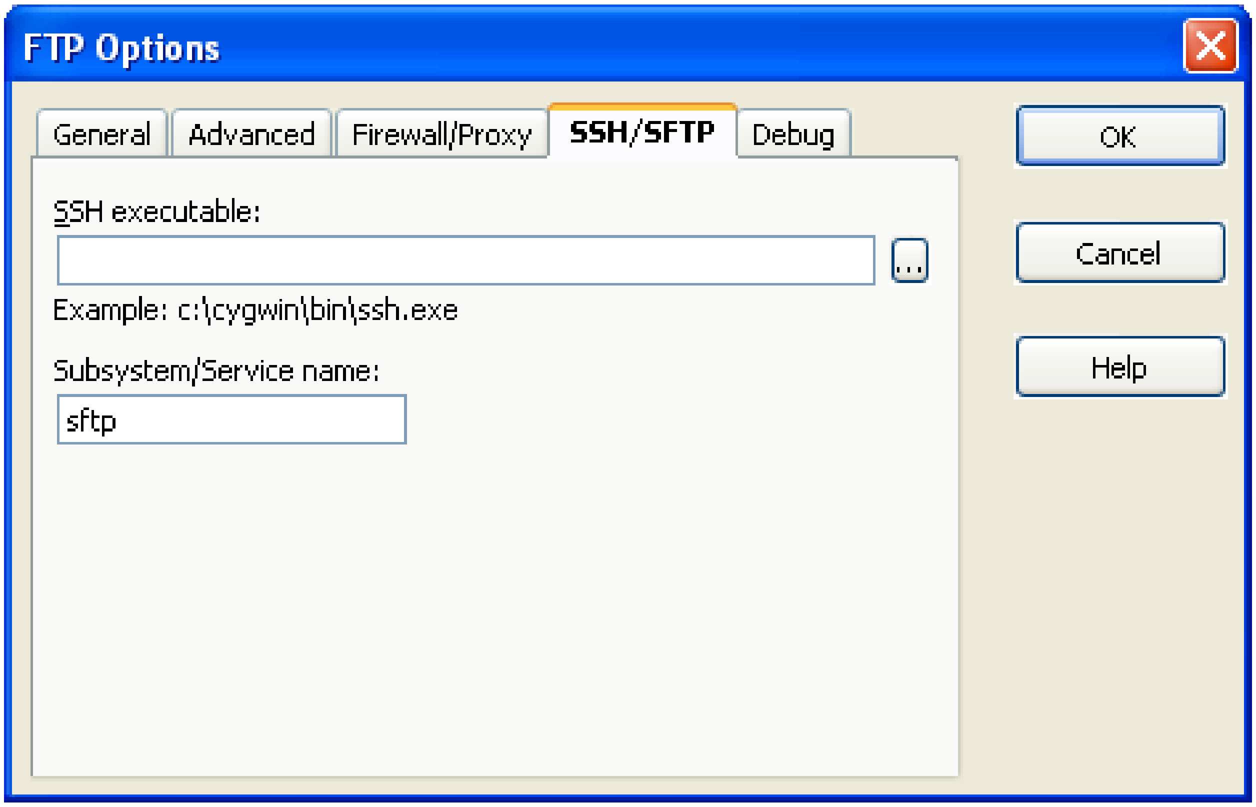
[ ] Passive transfers (PASV)

- **Enable firewall/proxy** - When on, indicates you have a firewall or proxy. You need to turn this on to add a connection profile that uses a firewall.
- **Host name** - Host name of firewall.
- **Port** - Port number of firewall.
- **User ID** - User ID used when logging into firewall.
- **Password** - Password used when logging into firewall.
- **USER user@site** - When this option is selected, host and port are required. User id and password are ignored. USER @remote_host is sent to the firewall when connecting.
- **USER user@site after logon** - When this option is selected, host, port, user id, and password are required. USER remote_userid@remote_host is sent to the firewall after logon.
- **OPEN site** - When this option is selected, host and port are required. User ID and password are ignored. OPEN remote_host is sent to the firewall when connecting.
- **Router** - When this option is selected, host, port, user id, and password are ignored. Router based firewalls are transparent with the exception that connections can only be established one way (out through the firewall). Because incoming connections are not allowed, PASV is turned on automatically.
- **Passive transfers (PASV)** - When this option is selected, transfers are initiated by SlickEdit Core.

SSH/SFTP Tab

This tab on the FTP Options Dialog is used to set the location of the client program used to establish connections with the SSH server.

Figure 10.65. FTP Options: SSH/SFTP Tab



SSH executable:

Example: c:\cygwin\bin\ssh.exe

Subsystem/Service name: sftp

- **SSH executable** - The location of the SSH client program that is used to establish the secure connection with the SSH server.

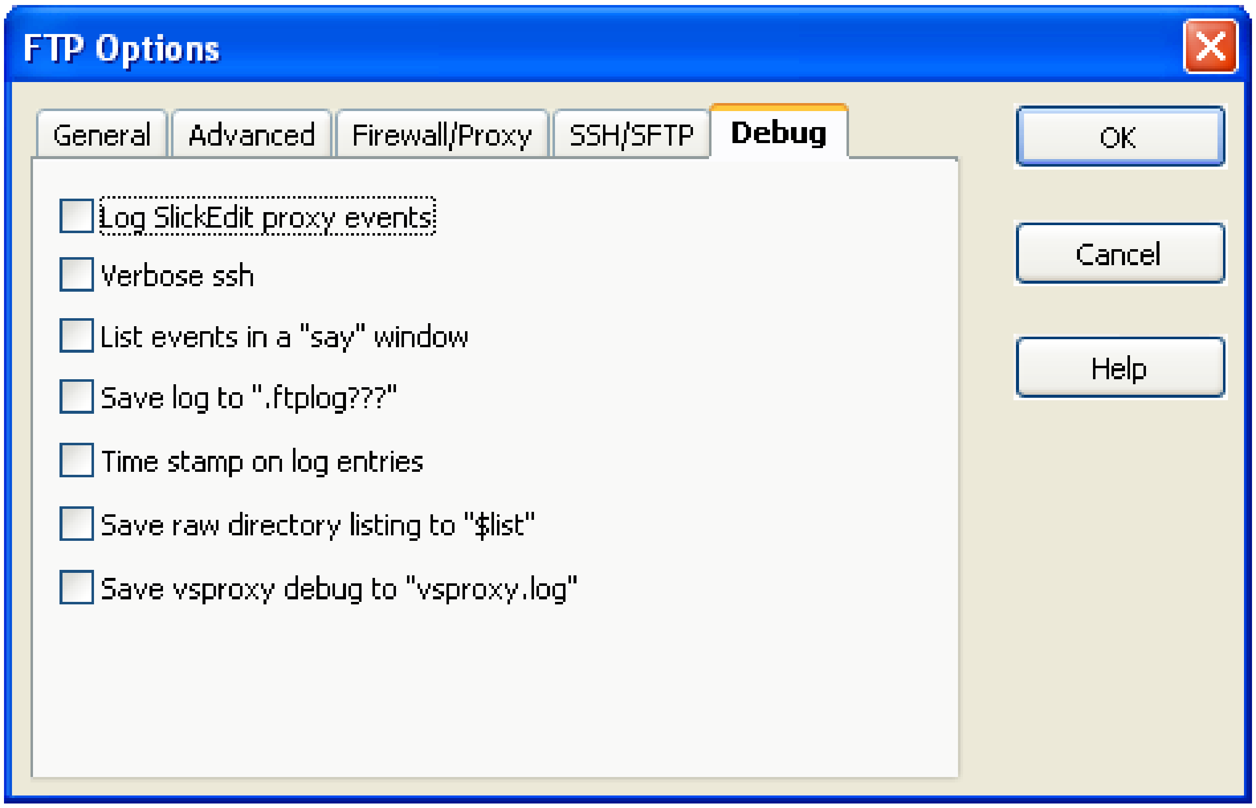
  SFTP support requires the OpenSSH client program to operate. Windows users can obtain the SSH client by downloading and installing the Cygwin package (*http://www.cygwin.com*) and making sure to choose the **openssh** package during install.

- **Subsystem/Service name** - The name of the SFTP service being run by the SSH server. Defaults to **sftp**.

Debug Tab

This tab on the FTP Options Dialog is used to set debug options for FTP.

Figure 10.66. FTP Options: Debug Tab

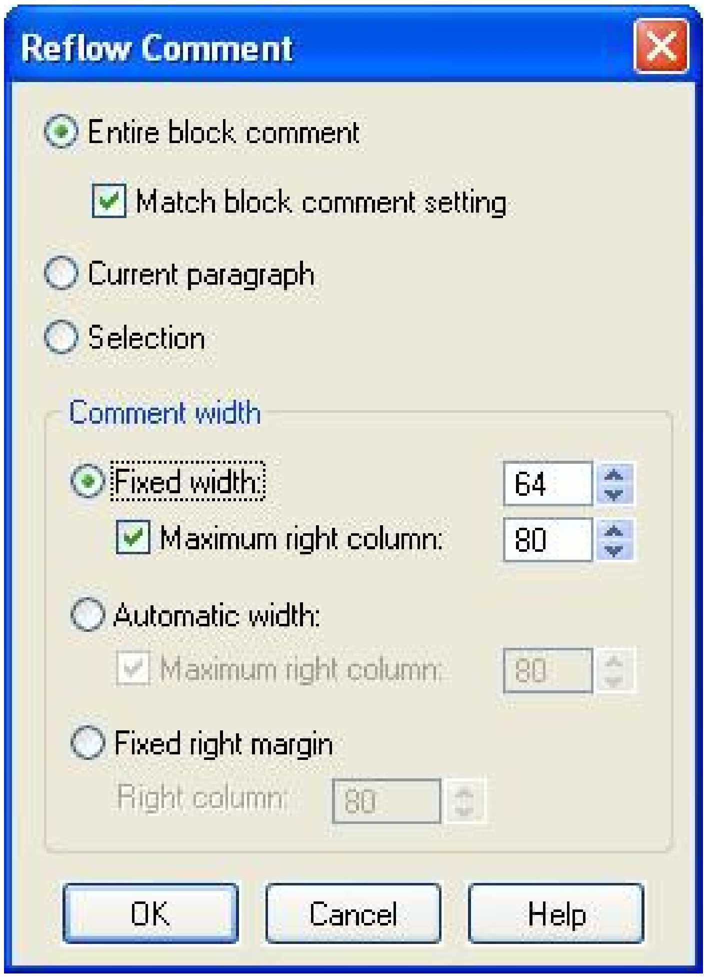


- [ ] Log SlickEdit proxy events
- [ ] Verbose ssh
- [ ] List events in a "say" window
- [ ] Save log to ".ftplog???"
- [ ] Time stamp on log entries
- [ ] Save raw directory listing to "$list"
- [ ] Save vsproxy debug to "vsproxy.log"

Reflow Comment Dialog

The Reflow Comment dialog (**Format** → **Reflow Comment**), shown below, is used to reflow block comments, paragraphs, or a selection of the current file.

Figure 10.67. Reflow Comment Dialog



The following options are available:

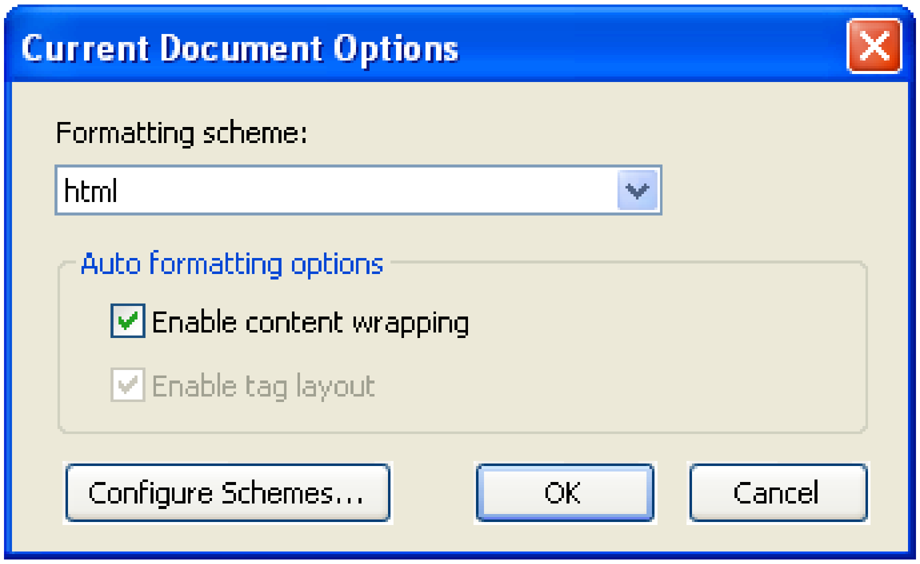
- **Entire block comment** - If selected, reflows an entire block comment based on the current width and border settings for the block comment.
- **Match block comment setting** - If selected, forces the borders to conform to the comment settings (**Format** → **Comment Setup**- see Comments Tab).
- **Current paragraph** - If selected, reflows the current paragraph within the block comment.
- **Selection** - If selected, reflows a selection within a block comment paragraph based on current settings.
- **Comment width** - Select one of the width options to reflow a block comment to the margins or the width that you specify in these fields. See Comment Wrap Tab for information on these options.

For more information about comments, see Commenting.

Current Document Options Dialog

The Current Document Options dialog allows you to enable/disable aspects of XML or HTML Formatting for just the current document. It can be displayed by clicking **Format** → **XML/HTML Formatting** → **Current Document Options**, or by using the **xml_html_document_options** command.

Figure 10.68. Current Document Options Dialog



The dialog contains the following:

- **Formatting scheme** - This drop-down specifies the formatting scheme applied to this document. Choose from the list of available schemes.
- **Auto formatting options** - These are the aspects of XML/HTML Formatting that can be enabled/disabled for the current document.
- **Configure Schemes button** - Allows you to modify or create a new scheme to apply to the current document.

For more detailed information, see Enabling/Disabling for the Current Document.

Chapter 11. Appendix

Encoding

Encodings are used to convert a file to either SBCS/DBCS for the active code page or Unicode (more specifically UTF-8) data. By default, XML and Unicode files with signatures (UTF-8, UTF-16 and UTF-32) files are automatically loaded as Unicode UTF-8 data, while other more common program source files like `.c`, `.java`, and `.cs` source files are loaded as SBCS/DBCS active code page data.

All file data can be configured to Unicode UTF-8 data, but this would cause some problems. Loading files containing SBCS/DBCS data would take significantly longer, slowing down parsing by Context Tagging® and any other multi-file operations. In addition, Unicode editors cannot support all the features supported by SBCS/DBCS editors due to font limitations. For more information, see Unicode Limitations.

To provide better support for editing Unicode and non-Unicode files, two modes of editing exist: Unicode and SBCS/DBCS mode. Files that contain Unicode, XML, or code page data not compatible with the active code page should be opened as Unicode files.

The following are non-Unicode encodings and put the editor in SBCS/DBCS editing mode: **Default**, **Text**, **SBCS/DBCS mode**, **Binary, SBCS/DBCS mode**, and **EBCDIC, SBCS/DBCS mode**. In addition, the **Auto Unicode**, **Auto Unicode2**, **Auto EBCDIC and Unicode**, and **Auto EBCDIC and Unicode2** encodings put the editor into SBCS/DBCS editing mode when the file is determined not to be Unicode. All other encodings put the editor in Unicode mode and require that the file data be converted to UTF-8.

There are many encodings available, including:

- **Auto XML -** This encoding specifies that the file encoding be determined based on XML standards and that the file be loaded as Unicode data. The encoding is determined based on the encoding specified by the **?xml** tag. If the encoding is not specified by the **?xml**, the file data is assumed to be UTF-8 data which is consistent with XML standards. We applied some modifications to the standard XML encoding determination to allow for some user error. If the file has a standard Unicode signature, the Unicode signature is assumed to be correct and the encoding defined by the **?xml** tag is ignored.
- **Auto Unicode** - When this encoding is chosen and the file has a standard Unicode signature, the file is loaded as Unicode data. Otherwise the file is loaded as SBCS/DBCS data.
- **Auto Unicode2** - When this encoding is chosen and the file has a standard Unicode signature or looks like a Unicode file, the file is loaded as Unicode data. Otherwise the file is loaded as SBCS/DBCS data. This option is NOT fool-proof and may give incorrect results.
- **Auto EBCDIC** - When this encoding is chosen and the file looks like an EBCDIC file, the file is loaded as Unicode data. Otherwise, the file is loaded as SBCS/DBCS data. This option is NOT fool-proof and may give incorrect results. The option does attempt to support binary EBCDIC files.
- **Auto EBCDIC and Unicode2 -** This encoding is a combination of the Auto EBCDIC and Auto Unicode2 encodings described above.

Using Unicode

To use encodings, Unicode support is required (OEMs typically turn this feature off). Unicode is supported for the following list of features:

- All Context Tagging® features.
- Color Coding.
- Level 1 regular expressions as defined by the Unicode consortium.
- Multi-file search and replace.
- Support for many encodings including UTF-8, UTF-16, UTF-32, and many code pages. Automatic encoding recognition for XML files. Configure encoding recognition per extension or globally. Optionally store signatures and specify little endian or big endian. Use the Save As or Write Selection dialog to convert data to a particular file encoding.
- Support for converting Unicode to UNC data and visa versa. Supported UCN formats include **\xHHHH**, **\x{HHHH}**, **\uHHHH**, **&xHHHH;**, and **&xDDDD;**. This is useful for specifying Unicode character strings in SBCS/DBCS active code page source files. See Converting Unicode to UCN.
- Multiple clipboards.
- Sorting.
- 3-Way Merge.
- Support for composite and surrogate characters.
- Support for storing up to 31-bit Unicode characters.
- SmartPaste®.
- Syntax Expansion and Syntax Indenting.
- Code beautifiers.
- Support for almost all of the SBCS/DBCS active code page features in SlickEdit® Core.

Unicode File Recognition

By default, XML and Unicode files with signatures (UTF-8, UTF-16 and UTF-32) files are automatically loaded as Unicode. If you have Unicode files that are not XML and do not have signatures, configure default options to get the best recognition possible. This is important because some features such as drag/drop files and DIFFzilla® do not prompt you for the file encoding.

Each extension may have its own encoding specification. If the extension-specific encoding is set to Default, then the global setting defined in the File Options dialog (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting and select the Load Tab) is used. Both the extension-specific and global setting are overridden if you previously specified an encoding in the Open dialog. The encoding used to override default encoding settings is recorded. The setting is then reused the next time you open the same file. This provides you with per-file encoding support.

If you have non-XML UTF-16 files that have signatures, then try selecting **Auto Unicode2** as an extension-specific or global encoding. Since there is no option for recognizing UTF-8 or UTF-32 files (other than Auto XML) by looking at the file contents, you will either need to set an extension-specific encoding, or specify the encoding in the Open dialog the first time you open the file.

Some compilers (such as Visual C++) let you specify the code page in the source file (in fact, more than one code page can be used in the file). This is not supported, so the assumption is that the file is SBCS/DBCS active code page data.

Opening Unicode Files

To open a Unicode file, complete the following steps:

1. Use the Open dialog (**File** → **Open**).
2. Specify the encoding if necessary.
3. Press **Enter**.

Surrogate Support

Unicode data is stored as UTF-8 and not UTF-16. Since the Windows Win32 calls are used to implement some Unicode features there are some issues. By default, Windows does not support surrogates. You must use the **regedit** program to turn on surrogate support.

To turn on surrogate support, run the **regedit** program and go to the following key location:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\LanguagePack
```

Set the value for **SURROGATE** to **0x00000002**.

Casing features (uppercase, lowercase, ignore case) do not support surrogates. Windows is used for casing support and Windows casing features do not support surrogates.

Converting Unicode to UCN

You can convert a selection from Unicode to UCN or vice-versa. SlickEdit® Core conversion features are located on the **Edit** → **Other** menu. The **Unicode to UCN** conversion feature is most useful for specifying Unicode character strings in SBCS/DBCS active code page source files. For example, here are the steps to store some UCN in a Java source file:

1. Open the Unicode file containing the Unicode characters or create a new Unicode file and enter the characters you want to convert.
2. Select the Unicode characters you want to convert.
3. Execute the **Java/C# (UTF-16 \uHHHH)** menu item (**Edit** → **Other** → **Copy Unicode As**).
4. Open the Java source file and paste (**Edit** → **Paste**) the UCN data into the file.

Unicode Limitations

The following is a list of Unicode limitations:

- Bold and italics color-coding is not supported. Support for this will be added in a future version.
- Tab character operations are not fully supported. Tab display, the **Expand tabs to spaces** save option (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting and select the Save Tab), and save with tabs (**save +t**) only work correctly if all the characters are below 128. The **Expand tabs to spaces** load option (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Options** setting and select the Load Tab) is ignored.
- Column selections do not fully support Unicode. If all the characters are below 128 and the font is fixed then it works. Support for this will be added in a future version.
- Word Wrap does not fully support Unicode. If all the characters are below 128 and the font is fixed, then it works. Support for this will be added in a future version.
- The Unicode line end character **0x2048** is not supported.
- Hex editing is not supported. The current character (Composite character) is displayed on the status line. Also, use the Open dialog with the **Binary, SBCS/DBCS mode** encoding to view a Unicode file in hexadecimal.
- Casing features (uppercase, lowercase, ignore case) do not support surrogates. Windows is relied upon for casing support, and Windows casing features do not support surrogates. See Surrogate Support.
- Vertical line column (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting and select the General Tab) is not supported.
- Truncation line length is not supported.
- **Record width** on the File Open dialog is not supported.
- DDE is not supported. Unicode DDE does not work with Internet Explorer or Netscape®. You can view files with Unicode data in Internet Explorer; however, this feature will fail if the file name contains characters not in the active code page.
- Version control supports files containing Unicode data but does not support file names that contain characters not in the active code page.
- Special character display is not supported for Unicode buffers.
- The **grew** program does not support Unicode and can only be used on SBCS/DBCS active code page text.
- If you load the same source file in Unicode and SBCS/DBCS mode, the Context Tagging® database will have incorrect seek positions. It is important to use the default load options and to always load source files in the same encoding so that the Context Tagging seek positions match the editor seek positions.
- The install (`setup.exe`), unionist (`uninstall.exe`), and update (`update.exe`) programs are not Unicode applications so the installation directory must contain characters in the active code page.

Unicode Implementation

Native Unicode and SBCS/DBCS editing modes are supported. When you edit a SBCS/DBCS (active code page) file such as a `.c`, `.h`, or `.java` file, the data is loaded as SBCS/DBCS data and is not converted to Unicode. When you edit a Unicode file, such as an XML file, the data is converted to UTF-8 that is one of the standard formats for supporting Unicode files. There are several advantages to this implementation:

- Since almost all source files for programming are stored as SBCS/DBCS, loading these files is significantly faster. This is very important to our customers who expect superior performance from SlickEdit® Core.
- Unicode editing modes cannot support all the features you were used to when editing SBCS/DBCS files (see Unicode Limitations).
- Macros can be written once to support both editing modes. This was very important to us because we wanted to reduce development time.
- Since Unicode is stored as UTF-8, only one set of binaries is required. Most products that support SBCS/DBCS and Unicode (UTF-16), use preprocessing. This requires two sets of binaries.

Environment Variables

Below is a list of environment variables that can be used. Configuration environment variables are set in `vslick.ini`.

You can also use the **set** command to temporarily change one of the configuration environment variables or any other environment variable. See Using the set Command for more information.

Caution

Do not set the **VSLICKCONFIG** environment variable in `vslick.ini`. **VSLICKCONFIG** determines where the editor looks for `vslick.ini`. When the editor starts up, it sets the value of environment variables specified in `vslick.ini`. For more information, see Setting Environment Variables in vslick.ini.

Table 11.1. Environment Variables

Environment Variable	Description
VSLICKRESTORE	Directory to store Auto Restore files.
VSLICKCONFIG	Directory where user's local configuration files are stored. Used in multi-user environments. Defaults to: • (Windows) `.../My Documents/My SlickEdit Core Config/<Editor_Version>/` • (Linux) `$HOME/.secore/<editor_version>/`
VSLICK	Specifies additional command line arguments to editor as if you were typing them in when invoking the editor.
VSLICKPATH	One or more directories separated with a semicolon (**;**) (or a colon [**:**] on UNIX) where batch macros or executable files are searched.
VSLICKMACROS	One or more directories separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain macro files (`*.e`). **VSLICKPATH** must also contain the directories listed here.
VSLICKBIN	One or more directories separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain binary files.

Environment Variable	Description
	VSLICKPATH must also contain the directories listed here.
VSLICKBITMAPS	One or more directories separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain bitmap files (`*.bmp`). **VSLICKPATH** must also contain the directories listed here.
VSLICKMISC	One or more directories separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain miscellaneous files including `*.vlx`, `*.slk`, `*.api`, `*.idx`, `vslick.sta` (UNIX: `vslick.stu`), `*.hlp`, `scommon.lst`, `main.dct`, `*.pif`, `*.ini` (except for `vslick.ini`), and `*.lst`. **VSLICKPATH** must also contain the directories listed here.
VSLICKALIAS	One or more file names separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain alias definitions.
VSLICKTAGS	Specifies global tag files. One or more file names separated with a semicolon (**;**) (or a colon [**:**] on UNIX) that contain tags. Do not put this environment variable in `vslick.ini`.
VSLICKBACKUP	Directory to place backup files. Affects **+D** (default) and **-D** backup configurations only.
VSLICKSAVE	Allows save options to be specified per drive.
VSLICKLOAD	Allows load options to be specified per drive.
VSLICKXTERM	(UNIX only) Allows you to specify the default xterm program and arguments used by the **dos** command and **shell** function. The complete path to the xterm program must be specified. You may not specify the **-e** option in the command string. For example, setting **VSLICKXTERM** to **/usr/X11/bin/xterm -geometry 80x40** will create xterm windows with a width of 80 characters and a height of 40 characters.
VSUSER	The license manager handles system crashes better if each user sets the **VSUSER** environment variable to a unique name.

Environment Variable	Description
VST	Specifies additional command line arguments to the macro compiler as if you typed them in when invoking the compiler.
VSLICKXNOBLINK	Suppresses the blinking cursor.
VSLICKXNOPLUSNEWMSG	Suppresses a message when starting a second instance of SlickEdit Core.

Setting Environment Variables in vslick.ini

Place configuration environment settings in the file `vslick.ini`. This file is located in the following default directory based on your platform (if it does not exist, it can be created manually):

- Windows: `.../My Documents/My SlickEdit Core Config/Editor_Version/`
- Linux: `$HOME/.secore/editor_version/`

Below is text from a sample `vslick.ini` file with an environment section, where **vslick** is the path to the root of the core SlickEdit plug-in: `/eclipse/plugins/com.slickedit.core_VERSION`

```
[Environment]
VSLICKPATH=c:\vslick\win;c:\vslick\macros;c:\vslick\bitmaps;c:\vmacros
VSLICKALIAS=c:\vmacros\alias.slk
VSLICKINCLUDE=c:\vslick\macros;c:\vmacros
VSLICKLOAD=a: +l b: +l
VSLICKSAVE=a: +o b: +o
MYPROJECTVERSION=c:\myprog4.2
```

When the editor starts, the following environment variables are created by the editor:

- **VSDRIVE** - Drive letter followed by a colon (**:**) where editor executable resides.
- **VSDIR** - Directory of editor executable with a trailing backslash (UNIX: slash).

Environment variables can be embedded in any line within a section by placing **%** characters around the environment variable.

Using the set Command

Change or view the environment while running through the **set** command. The operation of the built-in **set** command is almost identical to the DOS **SET** command. Use the **set** command to temporarily change one of the configuration environment variables or any other environment variable. For a complete listing of configuration environment variables, see the table above. The syntax of the **set** command is:

set [*`envvar_name`* [=*`value`*]]

When you invoke the **set** command with no parameters, a new buffer is created and the current environment variable settings are inserted. The current value of an individual environment variable may be retrieved by executing the **set** command followed by the name of the environment variable. Specify the name of the environment variable followed by an equal sign and the new value will replace the value of an existing environment variable or assign a value to a new environment variable.

To remove an environment variable, specify the name of the environment variable followed by an equal sign, but omit the *`value`* parameter (ex. **set classpath=**). The DOS command shell removes environment variables in this way also.

The following steps are a convenient way to change the **PATH** environment variable:

1. Press **Esc** to toggle the cursor to the command line.
2. Type **set path** and press **Enter**. This will place the current value of the **PATH** variable on the command line.
3. Edit the current value and press **Enter**.

You can use the above steps to change the value of any other environment variable by specifying a different environment variable name in the second step. The **set** command supports completion on the environment variable name. Typing **set ?** on the command line will give you a selection list of all of the environment variable names.

Configuration Variables

SlickEdit® Core has many behaviors that are controlled through properties not exposed in the options dialogs. They are set through global configuration macro variables in Slick-C®, using the **set_var** command. The most commonly used of these variables are listed in the table below.

Viewing Configuration Variables

To view the complete list of configuration variables, bring up the SlickEdit® Core command line and type **set_var def-** (note the hyphen at the end). The completion list will provide the full list of available variables. Use the Help system to look up information on a variable by typing the name of the variable into the Index search field.

Alternatively, you can use the Symbols View to find where the variable is defined in the Slick-C® code. Expand the **Slick-C** folder and then expand the **Global Variables** folder. If Slick-C hasn't already been tagged, type **fp** into the SlickEdit Core command line. This is an abbreviation of the **find_proc** command, which will trigger tagging if it hasn't already been done.

Setting/Changing Configuration Variables

There are two ways to set/change these macro variables:

- From the **SlickEdit** menu, click **Macro** → **Set Macro Variable** and enter the macro variable in the **Variable** field. The current value of the variable will be shown in the **Value** text box. Click **Edit** to edit this variable, then click **OK** to accept the change.
- From the SlickEdit Core command line, invoke the **set_var** command with the macro variable name (for example, **set_var def_auto_linecomment**), then press **Enter** to view the current value. You can edit this value, then press **Enter** to accept the change.

See Programmable Macros for more information on loading macros and setting variables.

Table of Configuration Variables

The table below provides a list of the most commonly used configuration variables.

Table 11.2. Configuration Variable

Configuration Variable	Description
def_auto_linecomment	Change to **0** to turn off automatic line comment insertion.
def_binary_ext	This variable is used by the `editflst.e` macro for

Configuration Variable	Description
	the Brief emulation. When the `editflst.e` macro is loaded, the space-delimited extensions listed by this variable are filtered out by the **edit** command's completion. The default is **.ex .obj .exe .lib**.
def_buflist	Change this variable to find the initial file in Buffer List. The default is **3**. This macro variable determines how the **list_buffers** commands displays the buffer list. By default, the buffer list is sorted and path information is in a separate column to the right of the name. This macro variable is composed with the following flags: • **SORT_BUFLIST_FLAG - 1** • **SEPARATE_PATH_FLAG - 2** Add the flags together to select a configuration. Leaving out a flag removes the features. If the buffer list is not sorted, the list will be in the order of the buffer ring. If you set this variable to **1**, it will show the full path, which you can order according to path. The default (**3**) will show an alphabetical list of the files in the left column and the directories in the right column.
def_ctags_flags	This variable is a safeguard against parsing past the end of a proc when the braces mismatch. To have the editor recognize the second **dd**, go to **Macro** → **Set Macro Variable**, enter **def_ctags_flags**, and set the value to **10**.
def_deselect_copy	Set to **1** in Brief emulation to deselect after a copy.
def_do_block_mode_key	Set this variable's value equal to **0** to stop SlickEdit Core from inserting characters on every line of a block selection.
def_eclipse_switchbuf	Responsible for Eclipse-style buffer switching with **Ctrl**+**PgUp** and **Ctrl**+**PgDn**. Set to **0** to turn this functionality off, and be able to bind these keys to other SlickEdit Core commands. Note that this functionality is currently available for Windows only.
def_error_re2	Edit this variable to change from the SlickEdit Core regular expression used for compile/build errors.

Configuration Variable	Description
def_filelist_show_dotfiles	Controls the global **Show hidden files** option on the General Tab of the General Options dialog. On Windows, the default value of this variable is **1**; change to **0** to view Dot files. On UNIX platforms, the default value is **0**; change to **1** to hide Dot files. (Dot files are files with names beginning with a dot character.)
def_from_cursor	Default is **0**. If non-zero, the commands **up-case_word**, **lowcase_word**, and **cap_word** will start case change from the cursor position instead of the beginning of the current word.
def_linewrap	Default is set to **1**. If you are at the end of a line that has whitespace only on the line below it (spaces or tabs) and you press **Delete**, this will bring the whitespace below it up to the end of the line that you are on. When the value is set to **0**, if you press **Delete** while at the end of a line that has whitespace only on the line below it (spaces or tabs), the whitespace is removed entirely–acting as a line delete.
def_linux1_shell	To use an alternate shell, set this variable to the shell that you want to run (for example, **/bin/bash -i**). This will cause the editor to use your process shell.
def_max_filehist	Increases the number of files displayed in the file history of the **File** menu. Enter the number of files you want to see in the history.
def_max_mffind_output	This variable is set for performance reasons. You can increase the amount of information displayed in the SlickEdit Core Output view during a multi-file search by changing this to your desired setting.
def_max_workspace_hist	Increases the length of the Workspace history list in the **Project** menu. Enter the number of files you want to see in the history.
def_modal_paste	Default is **0**. If non-zero, commands that insert a BLOCK-type clipboard will overwrite the destination text if the cursor is in Replace mode.

Configuration Variable	Description
def_plusminus_blocks	When the value is set to **1**, the **plusminus** command will try to find code blocks to expand or collapse if the cursor is on a line that does not have a **Plus** or **Minus** bitmap on it. The default is **1**.
def_preplace	Default is **1**. If the value is set to **0**, the **save** command will NOT prompt you if you are inadvertently overwriting a file. For example, if you invoke the command **save *xyz***, and an ***xyz*** file already exists, and ***xyz*** is not the name of the current buffer, you are prompted by default whether you wish to overwrite the file.
def_rwprompt	Default is **1**. Change this to **0** to suppress the pop-up that asks: `Do you want to update the read-only attribute of the file on disk?`
def_save_macro	Default is **1**. Set this variable to **0** if you do not want to be prompted with the Save Macro dialog box after ending macro recording.
def_shift_updown_line_select	Set this value to **1** for **Shift**+**Up** or **Shift**+**Down** to select the current line.
def_switchbuf_cd	Set this variable equal to **1** to change the current working directory to the file that currently has focus in the editor.
def_top_bottom_push_bookmark	Set this variable to **1** to push a bookmark whenever you jump to the top or bottom of the buffer. Note that even when this variable is set, no bookmarks are pushed when using the current buffer as a build window (`.process` buffer). The default value is **0**.
def_undo_with_cursor	Set this value to **1** to enable the undo of each cursor movement.
def_update_context_max_file_size	This variable increases the array size in bytes of a file that is too large. The default size of files that can be processed by Context Tagging® is 4 MB. The size can be lowered by changing this variable and setting it to equal the size that you want (in bytes).
def_vc_advanced_options	Set to this variable to **0** to remove advanced options

Configuration Variable	Description
	that decrease performance when using ClearCase version control.
def_vtg_tornado	Set this variable value to **0** to prevent Context Tagging of Tornado files.
def_xml_no_schema_list	To prevent the editor from accessing the Internet to validate and get color coding information from DTD’s, add your XML extension to this variable. Set the value to a list of space-delimited extensions that you want excluded for actual schema validation. For example: **.xml .xsl .xsd**. This will prevent the editor from attempting to connect to the Internet for these extensions.

Directories and Files

Configuration Directory

Your SlickEdit® Core configuration directory contains configuration files representing the changes you have made through setting editor options, and it preserves the state of SlickEdit Core by using the state file, `vslick.sta`.

Directory Location

By default, the configuration directory is located in `My Documents/My SlickEdit Core Config/<Version>` on Windows, and `$HOME/.secore/<Version>` on Linux. You can view the path to the config directory by clicking **Help** → **About SlickEdit Core**.

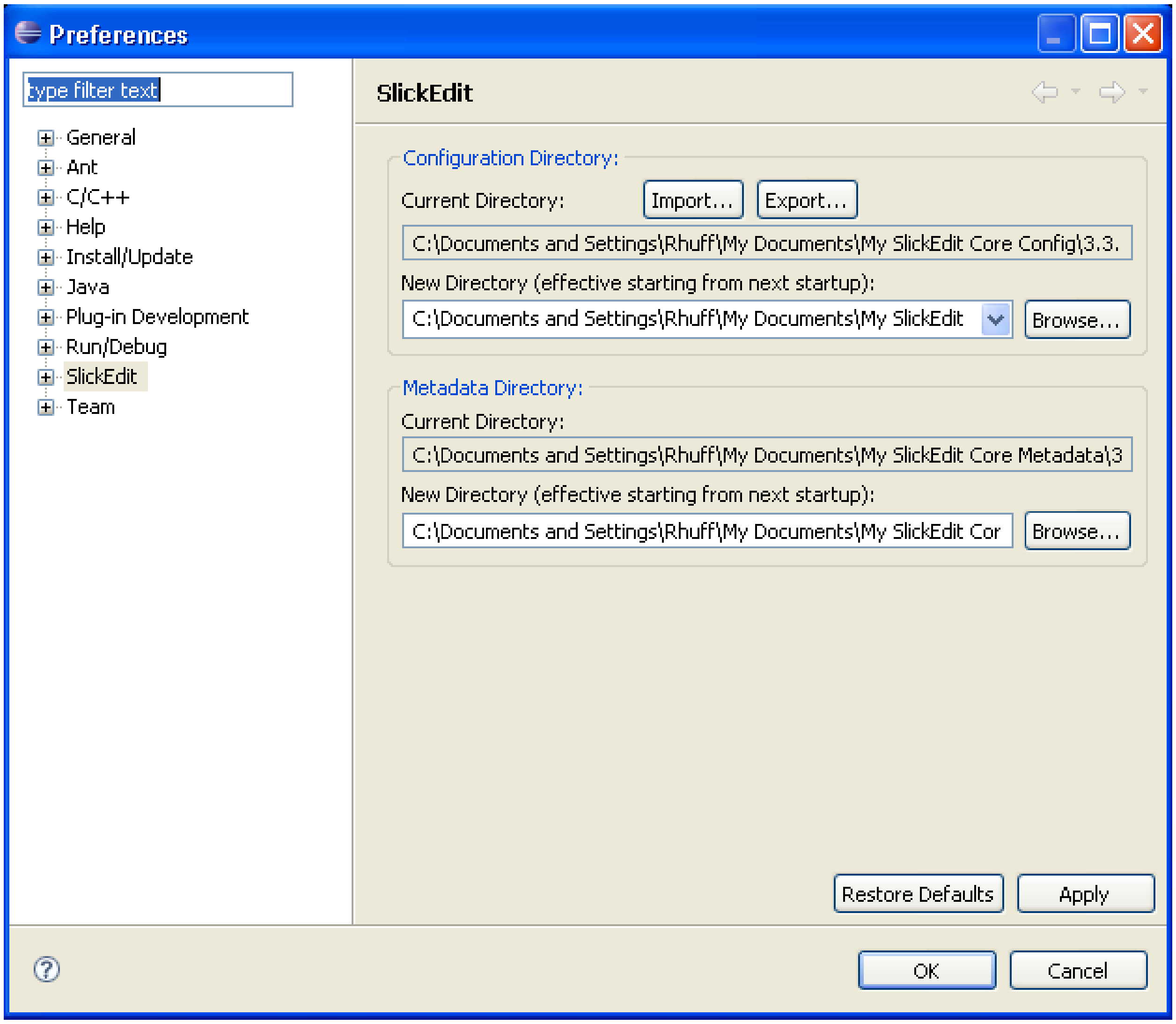
Changing the Configuration Directory

If you would like to use a different directory for your config files, you can pass the **–vsconfig** argument to Eclipse. This works the same as passing any argument to `eclipse.exe` (or `eclipse` on Linux). For example: **C:\Path_To_Eclipse\eclipse.exe –vsconfig=C:\My_Config**.

You can also change the location of the SlickEdit® Core metadata directory by using the **–vsmetadata** argument: **C:\Path_To_Eclipse \eclipse.exe -vsmetadata=C:\My_Metadata**. Both options can be used at the same time.

You can also change the configuration directory permanently through the SlickEdit Core Preferences page. Click **Window** → **Preferences** → **SlickEdit**, then use the **Configuration Directory** and **Metadata Directory** group boxes.

Figure 11.1. Configuration Directory Preferences



Configuration Directory:

Current Directory: C:\Documents and Settings\Rhuff\My Documents\My SlickEdit Core Config\3.3.

New Directory (effective starting from next startup): C:\Documents and Settings\Rhuff\My Documents\My SlickEdit

Metadata Directory:

Current Directory: C:\Documents and Settings\Rhuff\My Documents\My SlickEdit Core Metadata\3

New Directory (effective starting from next startup): C:\Documents and Settings\Rhuff\My Documents\My SlickEdit Cor

Use the **New Directory** fields to modify either of these values, and click **Apply**, and then **OK** to change the settings. Note that these changes will not be effective until the next start of Eclipse.

Backing Up the Configuration Directory

You should make periodic backups of your SlickEdit® Core configuration directory. If you experience a problem in the editor, you can often solve it by using a saved config directory. SlickEdit Core Product Support may also ask you to use a default configuration to help debug problems. This is accomplished by backing up your config directory and then deleting its contents.

Table of User Configuration Files

The table below provides a list of the user configuration files.

Table 11.3. User Configuration Files

User Config File	Description
`*.als`	A text file that contains user-defined extension-specific aliases.
`alias.slk`	A text file that contains user-defined global aliases (directory aliases).
`ftp.ini` (UNIX: `uftp.ini`)	A text file that contains user-defined FTP configurations.
`project.vpe` (UNIX: `uproject.vpe`)	A text file that contains user-defined extension-specific projects.
`ubox.ini`	A text file that contains user-defined box and line comment styles.
`uformat.ini`	A text file that contains user-defined beautifier schemes.
`uprint.ini`	A text file that contains user-defined printing schemes.
`uscheme.ini`	A text file that contains user-defined color schemes.
`user.vlx`	A text file that contains color coding changes (keywords, etc.). This file is updated when you close the Color Coding dialog box.
`usercpp.h`	A text file that contains defines (default preprocessing) for Context Tagging® of C++ and C code.
`uservc.slk`	A text file that contains user-defined version control systems.
`usrprjtemplates.vpt`	A text file that contains user-defined project packages.
`vrestore.slk`	A text file that contains auto-restore information. The workspace files also contain auto-restore information, but only for the files/windows previously open.
`vslick.ini`	A text file that contains a few miscellaneous options. The user-configured backup directory is stored here. In addition, some customizable environment variables for path searching for macros, bit-

User Config File	Description
	maps, and binary files are stored here as well.
`vslick.sta` (UNIX: `vslick.stu`)	A binary file that contains dialog boxes, menus, macro pcode, key bindings, and all other configuration data not stored in one of the other configuration files. Both user and system configuration information is stored here.
`vusrdefs.e` (UNIX: `vunxdefs.e`)	A Slick-C® text file that contains the emulation setting, key bindings, color settings, file extension setup information, and some other miscellaneous options.
`vusrobjs.e` (UNIX: `vunxobjs.e`)	A text file that contains user-defined dialog boxes and menus in Slick-C syntax.
`vusrs*.e` (UNIX: `vunxs*.e`)	A text file that contains system modified dialog boxes and menus. These changes are NOT automatically transferred unless the version encoding matches. For example, `vusrs10e.e`.

System Configuration Files

System configuration files are located in the SlickEdit® Core installation directory.

Typically, these files are only modified by SlickEdit Inc. or OEM customers. OEM customers might want to modify one of these files to ship a customized version of SlickEdit Core.

Table of System Configuration Files

The table below provides a list of the system configuration files.

Table 11.4. System Configuration File

System Config File	Description
`alias.slk`	A text file that contains default global aliases (for example, directory aliases).
`box.ini`	A text file that contains default box and line comment styles. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.

System Config File	Description
`format.ini`	A text file that contains default beautifier schemes.
`print.ini`	A text file that contains default printing schemes. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.
`prjtemplates.vpt`	A text file that contains default project packages. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.
`syscpp.h` (UNIX: `usyscpp.h`)	A text file that contains system-defined default pre-processing for Context Tagging® of C++ and C code.
`vcsystem.slk` (UNIX: `uvcsys.slk`)	A text file that contains default version control systems. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.
`vslick.ini`	A text file that contains a few miscellaneous options. Some customizable environment variables for path searching for macros, bitmaps, and binary files are stored here as well. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.
`vslick.sta` (UNIX: `vslick.stu`)	A binary file that contains default dialog boxes, menus, macro pcode, key bindings, and all other configuration data not stored in one of the other configuration files.
`vslick.vlx`	A text file that contains default color coding lexer definitions.
`vsscheme.ini`	A text file that contains default color schemes. This file is NOT modified by the dialogs and is not preserved when a new editor is installed.

File Search Order

Search Order for Configuration Files

Several files are automatically searched for, either immediately when the editor is invoked or during the course of operation. The search order for configuration files such as `vslick.ini`, `vslick.sta`, and `vrestore.slk` is:

1. Configuration directory. The configuration directory is defined by the **VSLICKCONFIG** environment variable.
2. If **VSLICKCONFIG** is not defined, then `My Documents\My SlickEdit Core Config` is used.
3. Current directory.
4. Paths specified in **VSLICKPATH** environment variable.
5. Paths specified in **PATH** environment variable.

Search Order for Executable Files

The search order for executable files, batch macro programs, and miscellaneous files is:

1. Current directory.
2. Configuration directory. The configuration directory is defined by the **VSLICKCONFIG** environment variable.
3. If **VSLICKCONFIG** is not defined, then `My Documents\My SlickEdit Core Config` is used.
4. Paths specified in **VSLICKPATH** environment variable.
5. Paths specified in **PATH** environment variable.

VLX File and Color Coding

For more basic information about using Color Coding, see Color Coding.

To modify the color coding for VLX files, use one of the following methods:

- Use the Color Coding Setup dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **Color Coding** setting).
- Modify the `vslick.vlx` file.
- Or, create a new VLX file.

The `vslick.vlx` file defines language-specific coloring support for the following languages:

- Ada
- Assembler
- AWK
- C
- C++
- CFScript
- CICS
- COBOL
- dBASE
- Delphi
- Fortran
- HTML
- Java
- Modula-2
- Pascal
- Perl
- Python
- REXX
- Slick-C®

- VHDL
- Visual Basic .NET

Modifying the VLX File to Change a Color Definition

To modify an existing language-specific coloring definition, complete the following steps:

1. Open `vslick.vlx` for editing.
2. Search for one of the section names: CPP, Java, Delphi, Pascal, AWK, REXX, Perl, HTML, Modula-2, AWK, COBOL, Python, CICS, Fortran, Visual Basic .NET, Ada, or Slick-C®.
3. Modify the definition. See below for information on the syntax of definitions.
4. Invoke the **cload** command from the command line. If the current buffer has a `.vlx` extension, it will be loaded. Otherwise you will be prompted to specify a file name. Specify `vslick.vlx` including path as the file name.

Creating a Lexer Name and a New VLX File

To create a new lexer name (and thus a new section in the VLX file), first complete all of the preceding steps under Modifying the VLX File to Change a Color Definition, then complete the steps below.

1. From the main menu, click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **File Extension Setup** setting. The Extension Options dialog box appears.
2. Select the Advanced Tab.
3. If this lexer definition is for a new extension, create the extension with the **New** button. Otherwise, choose the appropriate extension.
4. Set the **Lexer Name** for the new lexer definition you created.
5. Turn on the **Language Specific** check box.
6. Click **Update** to commit the changes.

Files with a `.vlx` extension are text files that have a syntax similar to a `.ini` file. If the first non-blank character in a line is a semicolon, the line is considered a comment. Each definition of a language starts with a section name (the lexer name) enclosed in square brackets. Within each section are statements in the format ***`name=value`***.

The table below shows the statements that can be used.

Table 11.5. VLX File Statement

Statement	Description
case-sensitive= [Y | N]	Defines the case sensitivity for the language. This statement must be the first or second statement within the section.
idchars=start_id_chars after_id_chars	Defines the characters that are the start of a valid identifier and additional valid characters that may follow. This statement must be the first or second statement within the section. You may use a dash (**-**) character to specify a range, for example, **A-Z** specifies uppercase letters. To specify a dash or backslash (\) character as a valid word character, place a backslash before the character.
styles= ***`style`***	Defines zero or more styles. See Table of style Values below for a list of available styles.
mlcomment= ***`start_symbol end_symbol`*** **[nesting] [followedby** ***`idchars`*****] [*****`colorname`*****]**	Defines a multi-line comment. ***`start_symbol`*** and ***`end_symbol`*** define strings which start and end the comment. Specify **nesting** if the lexer should look for another occurrence of ***`start_symbol`*** when looking for the end comment symbol. The **followedby** ***`idchars`*** is used to require certain characters to follow ***`start_symbol`***. You can use a dash (**-**) character to specify a range, such as **A-Z**, which specifies uppercase letters. To specify a dash (**-**) or backslash (\) character as a valid word character, place a backslash before the character. **followedby** is ignored when the **html** style is specified. Currently, ***`start_symbol`*** and ***`end_symbol`*** may not be valid identifiers. No more than four multi-line comments may be defined. ***`colorname`*** can be used to indicate that a different color such as keyword color be used instead of comment color when a match is found. ***`colorname`*** may be **keywordcolor**, **numbercolor**, **stringcolor**, **commentcolor**, **ppkeywordcolor**, **linenumcolor**, **symbol1color**, **symbol2color**, **symbol3color**, or **symbol4color**.
mlcomment= ***`start_symbol start_col`*** **[checkfirst|leading]** ***`end_symbol`*** **[lastchar]**	Defines a multi-line comment. This construct was designed to handle comments for the ATLAS language. ***`start_symbol`*** and ***`end_symbol`*** define strings which start and end the comment. ***`start_symbol`*** is only considered the start of a comment if it appears in column ***`start_col`***. **checkfirst** specifies that the lexer should check if

Statement	Description
	the line is a comment before determining the color coding of symbols in the line. When the **checkfirst** option is specified, ***`start_symbol`*** is limited to one character in length. **leading** specifies that **symbol** is considered a line comment only if it appears as the first non-blank character. Space or tab characters are considered blanks. Currently, ***`end_symbol`*** may not be a valid identifier. **lastchar** specifies that ***`end_symbol`*** must appear as the last character on a line to terminate the comment. No more than two multi-line comments may be defined.
mlckeywords= [*`keyword`*] [*`keyword`*] ...	Defines keywords for the last **mlcomment** statement. When one of these keywords follows the ***`start_symbol`*** defined for the last **mlcomment** statement, the keyword color is used to color the comment instead of comment color. Keywords do not have to be valid identifiers. This statement is useful for tag languages like HTML. See the HTML definition in the file `vslick.vlx` for an example.
keywordattrs= [*`mlckeyword`*] [*`attribute`*] [*`attribute`*] ...	Defines attributes for the ***`mlckeyword`*** specified which belongs to the last **mlcomment** statement. Currently this statement only supports HTML syntax attributes and requires that the **HTML** style be specified. For example, **keywordattrs=SCRIPT LANGUAGE SRC**
linecomment= [*`symbol`*] [*`col`* | *`col+`* | *`start_col`* - *`end_col`*] [checkfirst|leading]	Defines a line comment. ***`symbol`*** defines the character(s) which start this line comment. If no column limits are specified, the remainder of the line is considered a comment regardless of where ***`symbol`*** appears. A plus sign (+) after a column specifies an unlimited ***`end_col`***. **checkfirst** specifies that the lexer should check if the line is a comment before determining the color coding of symbols in the line. When the **checkfirst** option is specified, ***`symbol`*** is limited to one character in length. If ***`symbol`*** is not specified, all characters will be ignored at or after the column specified (ex. **linecoment=73+**). This is useful for Fortran which requires that all characters at or after column 73 be ignored. **leading** specifies that **symbol** is considered a line comment only if it appears as the first non-blank character. Space or tab characters are considered blanks.

Statement	Description
keywords= [*keyword*] [*keyword*] ...	Defines words that should be displayed in keyword color. Keywords do not have to be valid identifiers.
cskeywords= [*keyword*] [*keyword*] ...	(Case-sensitive keywords) Defines words that should be displayed in keyword color only if found in the case specified. This statement should only be used for languages such as HTML which are case insensitive except for a few words. For other languages, use the **case-sensitive** and **keywords** statements. Keywords do not have to be valid identifiers.
ppkeywords= [*keyword*] [*keyword*] ...	Defines words that should be displayed in preprocessor color. The first character of a preprocessor keyword must not be a valid identifer. Preprocessing keywords must appear as the first non-blank symbol in the line.
symbol1= [*keyword*] [*keyword*] ...	Defines words that should be displayed in **symbol1** color. Keywords do not have to be valid identifiers.
symbol2= [*keyword*] [*keyword*] ...	Defines words that should be displayed in **symbol2** color. Keywords do not have to be valid identifiers.
symbol3= [*keyword*] [*keyword*] ...	Defines words that should be displayed in **symbol3** color. Keywords do not have to be valid identifiers.
symbol4= [*keyword*] [*keyword*] ...	Defines words that should be displayed in **symbol4** color. Keywords do not have to be valid identifiers.

Table of *style* Values

The table below describes the ***style*** values that can be used.

Table 11.6. Table of *style* Value

Value of *style*	Description
linenum	Line numbers may be found as the first non-blank symbol of a line like BASIC.
dqbackslash	Color double-quoted strings. Characters following a backslash in a double-quoted string are included in the string (like C).

Value of *style*	Description
dqbackslashml	Color double-quoted strings. If a double-quoted string ends in a backslash, it continues the string to the next line (like C).
dqmultiline	Color double-quoted strings. String may span multiple lines.
dqdoubles	Color double-quoted strings. Two double quotes represent one double quote.
dqterminate	Do not color-code a double-quoted string until the string is terminated. This style does not support **dqmultiline** or **dqbackslashml**.
dqlen1	Color double-quoted strings. Double-quoted strings contain exactly one character.
sqbackslash	Color single-quoted strings. Characters following a backslash in a single-quoted string are included in the string (like C).
sqbackslashml	Color single-quoted strings. If a double-quoted string ends in a backslash, it continues the string to the next line.
sqmultiline	Color single-quoted strings. String may span multiple lines.
sqdoubles	Color single-quoted strings. Two consecutive single quotes represent one single quote (like Pascal).
sqterminate	Do not color-code a single-quoted string until the string is terminated. This style does not support **sqmultiline** or **sqbackslashml**.
sqlen1	Single-quoted strings contain exactly one character (like Ada).
amphhex	Hexadecimal numbers are of the form **&H*dddd*** (like BASIC).
ampooct	Octal numbers are of the form **&O*dddd*** (like BASIC).
hexh	Hexadecimal numbers are of the form ***dddd*H** (like

Value of *style*	Description
	Intel Assembler).
octo	Octal numbers are of the form ***dddd*O** (like Intel Assembler).
octq	Octal numbers are of the form ***dddd*Q** (like Intel Assembler).
poundbase	Based numbers are of the form **#base#number#exponent** (like Ada).
underlineint	Numbers may have underlines between the numbers (like Ada).
xhex	Hexadecimal numbers are of the form **0x*hhhh*** (like C).
nonumbers	Do not color-code numbers. This style is useful for tag languages like HTML. Using this style with other number color-coding styles will produce unpredictable results.
rexxhex	Hexadecimal strings are followed by an upper or lowercase letter **X**. For example, **'414141'X** or **414141X** are REXX-style hexadecimal strings that are both equivalent to the string **AAA**.
packageimport	Language has Java syntax package and import statement where non-quoted file name follows **package** and **import** keyword.
idparenfunction	An identifier followed by an open parenthesis indicates a function (like C++ and Java).
html	Enables HTML syntax embedded languages and attribute coloring.
backslashescapechars	Backslash escapes the character that follows.
heredocument	Enables support for **Here** documents. Note that if you prefix the terminator with one of the lexer names, you will get embedded language color-coding.
perl	Adds support for Perl **format** statement and some other Perl-specific changes.

Value of `style`	Description
tcl	Special support for TCL language color-coding.
bquote	Perl- and Linux Shell-style backquote (subshell).
model204	Special support for Model 204 language.
cics	Special support for CICS embedded in COBOL.
python	Special support for Python.

Editing the Key Binding Source

If you are creating a new emulation or if you change many key bindings, you might want to edit your key binding source instead of using the Key Bindings Dialog. To create a Slick-C® batch macro containing your current key bindings, enter the command **list_source** on the command line. One of the files generated by this command is `vusrdefs.e`. It is placed in your configuration directory if you have changed this location from the default. Otherwise, it is placed in your `macros` directory. If you open this file (**Ctrl**+**O**), the first part of the source code is your key binding, which looks like the following:

```
defeventtab default_keys
def 'A-a'-'A-z'=
def 'A-F6'=
def 'F10'=
def 'C-A'= select all
def 'C-B'= select_block
def 'C-C'= copy_to_clipboard
def 'C-D'= gui_cd
```

The **default_keys** are the key bindings that are active in Fundamental mode. The other event tables defined by the **defeventtab** primitive are mode event tables containing key bindings which override the Fundamental mode key bindings. Make changes to this buffer by adding or modifying the def **keyname=** command lines and then save the buffer by pressing **Ctrl**+**S**. The valid key names are listed in the Help system under **Event Names**. You can also list the key names of the keys through the Help by invoking the command **help Event Names**. To run this batch program, type the name **vusrdefs** without the extension on the command line. The path is not necessary if it is included in your **VSLICKPATH** or **PATH** environment variable.

Menu Editing

For information about accessing SlickEdit® Core menus and associated options, see Menus.

Creating and Editing Menus

SlickEdit® Core menus are controlled by Slick-C® macro files. You can customize menus by editing these files.

If you plan to customize your menu items, be sure to back up your configuration directory before installing any updates or new versions of SlickEdit Core, as they will overwrite your changes.

Menus can be managed using the Open Menu dialog. From this dialog, you can pick a menu to edit, create a new menu, run a menu as a pop-up. To access the dialog, from the main menu, click **Macro** → **Menus** (or use the **open_menu** command). The following buttons are available:

- **Open** - Opens the menu specified in the combo box for editing with the Menu Editor. If the menu specified does not already exist, it is created.
- **New** - Creates a new menu with a unique name for editing with the Menu Editor. The Menu Editor allows you to change the name of the menu.
- **Delete** - Deletes the specified menu from the combo box.
- **Show** - Runs the menu by displaying it as a pop-up. Use this button during macro recording to create a command which runs a menu by displaying it as a pop-up. If you bind the command to a left or right button mouse event, the menu will be displayed at the cursor position.

You can use the Menu Editor to create a new menu, or modify the SlickEdit Core menu bar or an existing menu resource, which can be displayed as a pop-up or menu bar.

Creating a New Menu Resource

Use the Menu Editor to create a new menu resource. From the main menu, click **Macro** → **Menus** (or use the **open_menu** command), then click **New** on the Open Menu dialog. The Menu Editor is displayed. See Menu Editor Dialog for more information.

To create a command which runs a menu by displaying it as a pop-up, after creating a menu, while macro recording, click the **Show** button on the Open Menu dialog box. If you bind the recorded command to a left or right mouse button event, the menu will be displayed at the cursor position. You DO NOT need to specify key bindings for menu items because the Menu Editor automatically determines the key bindings for you. To choose between short and long key names, from the main menu click **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **General** setting. On the General Options dialog, select the More Tab, and change the option **Short key names**.

See the *Slick-C® Macro Programming Guide* for information on creating forms with menu bars or advanced information.

Editing Menus

To select a menu for editing, from the main menu click **Macro** → **Menus** (or use the **open_menu** command). Select the menu to edit from the list, then click **Open**. The Menu Editor will be displayed. See Menu Editor Dialog for a list of the available options.

Defining Menu Item Aliases

The Menu Item Alias dialog box allows you to define aliases (which are similar commands) for the command that is being executed. This dialog box can be accessed by clicking the **Alias** button on the Menu Editor. Enter each alias command on a separate line. If one of the alias commands are bound to a key, that key name will be displayed to the right of the menu item. For example, the **e** and **edit** commands are absolutely identically in function except that the **e** command requires fewer characters to type. The **gui_open** command is identical to the **edit** command except that it prompts the user with a dialog box, whereas the **edit** command prompts for files on the command line. These two examples illustrate the best reasons for using aliases.

Enabling/Disabling Menu Items

SlickEdit® Core has some attributes for enabling/disabling predefines that you can specify for any command. When these predefined auto-enabling attributes are not enough, you need to implement a callback which determines the enable or disable state of the command. See the *Slick-C® Macro Programming Guide* for information on enabling and disabling menu items with your own callback.

The Auto Enable Properties dialog box is used for these settings, and can be accessed from the main menu by clicking **Macro** → **Menus**. When the Open Menu dialog box is displayed, click **New** to display the Menu Editor. Click the **Auto Enable** button, and the Auto Enable Properties dialog is displayed.

For descriptions of the options on this dialog, see Auto Enable Properties Dialog.

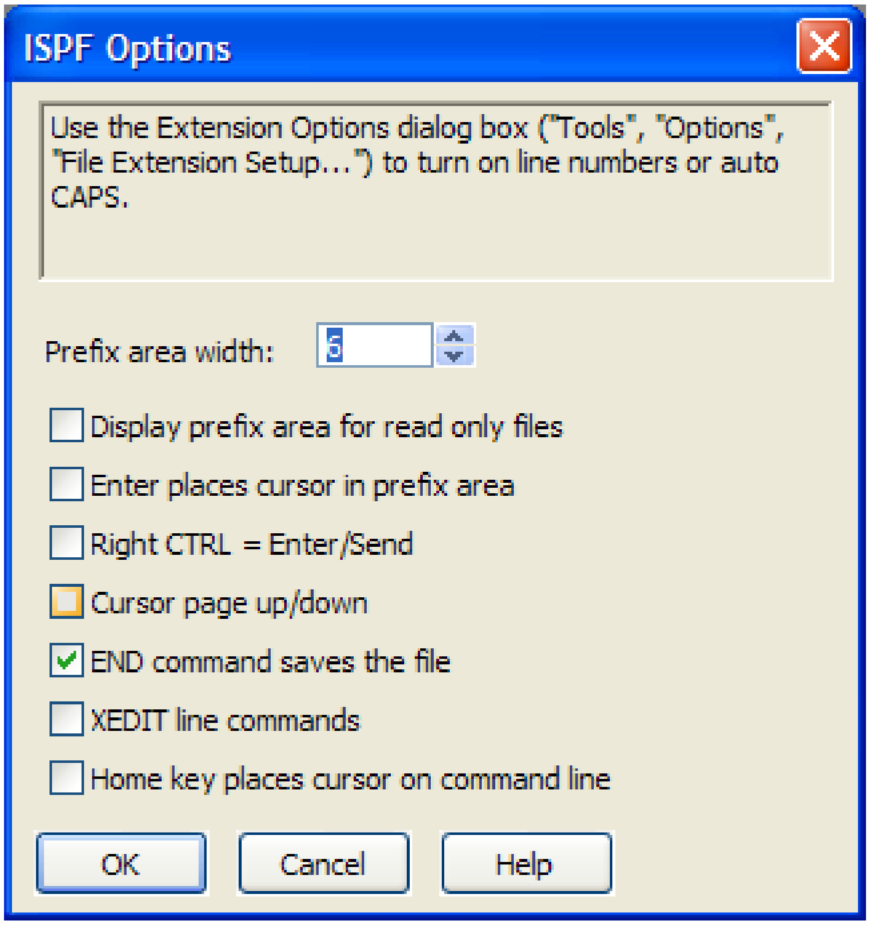
Using the ISPF and XEDIT Emulations

This section describes the features of the ISPF editor emulation and outlines some XEDIT line commands.

ISPF Options Dialog

The ISPF Options dialog is used to tune various ISPF emulation options. When you are in ISPF emulation, you can access this dialog from the main menu by clicking **Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **ISPF Options** setting.

Figure 11.2. ISPF Options Dialog



Use the Extension Options dialog box ("Tools", "Options", "File Extension Setup...") to turn on line numbers or auto CAPS.

Prefix area width: 6

- [ ] Display prefix area for read only files
- [ ] Enter places cursor in prefix area
- [ ] Right CTRL = Enter/Send
- [ ] Cursor page up/down
- [✓] END command saves the file
- [ ] XEDIT line commands
- [ ] Home key places cursor on command line

The following settings are available:

- **Prefix area width** - The number of characters to display in the prefix area (default is **6**). Note that some line commands require four characters (e.g. **BNDS**, **TABS**, **COLS**, **MASK**). To completely remove the prefix area, set the prefix area width to **0**.

  Only the following line commands are allowed in read-only mode:

  - **ISPF Line Labels** - Define a label.
  - **ISPF Line Command BNDS** - Insert a column boundary ruler line.
  - **ISPF Line Command COLS** - Insert a column ruler line.
  - **ISPF Line Command First** - Expose one or more lines at the beginning of a block of excluded lines.
  - **ISPF Line Command Last** - Expose one or more lines at the beginning of a block of excluded lines.
  - **ISPF Line Command Show** - Expose one or more lines having the leftmost indentation level in a block of excluded lines.
  - **ISPF Line Command TABS** - Displays the tab definition line.
  - **ISPF Line Command Exclude** - Specifies one or more lines to be hidden (excluded).
  - **ISPF Line Command Select** - Select a block of lines.

- **Enter places cursor in prefix area** - When this check box is selected, the **Enter** key places the cursor in the prefix area of the next line. When this check box is cleared, the **Enter** key places the cursor in column 1 of the next line.
- **Right CTRL = Enter/Send** - When this check box is selected, the **Enter** key places the cursor at the beginning of the next line, and the **Right Ctrl** key is used to execute line commands. When this check box is cleared, the **Right Ctrl** key acts like a normal control key and the **Enter** key is used to execute line commands.
- **Cursor page up/down** - When this check box is selected, the display is scrolled up/down until the line the cursor is on becomes the last/first line displayed, respectively. If the cursor is already on the top/bottom display line, the display is scrolled one page. When this check box is cleared, page up/down always scrolls one page.
- **END command saves the file** - When this check box is selected, changes to the buffer are saved automatically when the **ispf_end** (**F3**) command is performed. Otherwise, you will be prompted if you want to save changes before closing the file.
- **XEDIT line commands** - When this check box is selected, the prefix area will support XEDIT-style line commands.
- **Home places cursor on command line** - When this check box is selected, the **Home** key places the cursor on the command line. By default, this option is off, and the **Home** key simply moves the cursor to the beginning of the line.

Further ISPF-related options are available on the General Tab of the Extension Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, double-click the **File Extension Setup** setting). These options include **Auto CAPS** mode and editing of boundaries and the truncation column.

ISPF Primary Commands

The following table of standard ISPF primary commands are supported in the ISPF emulation mode. Primary commands are entered by placing the cursor on the command line.

To place the cursor on the command line, either press the **Esc** key, click on the message line, or use **is-pf_retrieve** (**F12**). If configured to do so, the **Home** key will also place the cursor on the command line. Once on the command line, you may use the cursor **Up**/**Down** keys to retrieve the previous/last command entered, respectively.

Though primary commands may be typed at the command line explicitly, for convenience you can simply type the last part of the command name in the command line and it will automatically be mapped to the ISPF-specific command. For example, to execute the ISPF **reset** command, simply type **reset** at the command line instead of **ispf_reset**.

Note

Some standard built-in commands conflict with ISPF emulation commands. These conflicts include **copy**, **cut**, **delete**, **find**, **hex**, **move**, and **paste.** To access the built-in command, you may be able to use a menu option or consult the Help for that command for specific instructions.

Table 11.7. ISPF Primary Commands

Command	Description
ispf_autosave	Turn on or off prompting to save changes.
ispf_bounds	Set or reset the left and right edit boundaries.
ispf_bnds	Set or reset the left and right edit boundaries
ispf_browse	Browse a data set or member.
ispf_cancel	Closes the current file or PDS member without saving changes.
ispf_caps	Turn on or off automatic capitalization mode.
ispf_change	Replace one string with another within the current buffer.
ispf_chg	Replace one string with another within the current buffer.
ispf_compare	Compare the file you are editing with another file.

Command	Description
ispf_copy	Insert the contents of a file or PDS member into the buffer.
ispf_create	Create a new file or PDS member containing the contents of the buffer.
ispf_cut	Cut lines out of the current buffer and place them in the clipboard.
ispf_delete	Delete lines in the given line range, or the entire buffer.
ispf_edit	This command is identical to the built-in edit command.
ispf_end	Close the current file.
ispf_exclude	Hide (exclude) lines that match the given search string.
ispf_find	Find occurrences of the given search string in the current buffer.
ispf_flip	Reverse the exclude status of lines.
ispf_hex	Toggle display of the document in Hexadecimal mode.
ispf_hilite	Specify the use of color-coding in the editor.
ispf_locate	Find lines with a specific line prefix.
ispf_move	Move the contents of a file or PDS member into the buffer.
ispf_nonumber	Turn off numbering mode.
ispf_number	Controls line numbering mode. Unlike ISPF, this command does affect how lines are inserted.
ispf_paste	Copy lines from the clipboard to the buffer.
ispf_preserve	Controls saving of trailing blanks.

Command	Description
ispf_rchange	Repeat the change requested by the most recent change command.
ispf_renumber	Immediately update the line numbers in a file.
ispf_replace	Save the contents of the current buffer to an existing file.
ispf_reset	Reset the contents of the line prefix area.
ispf_return	Close the current file.
ispf_rfind	Repeat the last find operation requested.
ispf_save	This command is identical to the built-in **save** command.
ispf_sort	Sort lines of data in a specified order.
ispf_submit	Submit the contents of the current buffer for batch processing.
ispf_swap	Switch to the next buffer.
ispf_tabs	Define logical tab positions.
ispf_unnumber	Blank out the line numbers in a file.
ispf_undo	This command is identical to the **undo** command.

ISPF Line Commands

The table below shows ISPF edit line commands that are supported in the ISPF emulation mode.

Enter line commands by typing over the prefix area (on the left-hand side of the editor control) which contains either **======** or the line number. To place the cursor in the prefix area, click there, or move the cursor left or backspace until the cursor in is in the prefix area. In addition, **Enter** will place the cursor in the prefix area of the next line, unless an insert or text entry command is executed.

Edit line commands operate on either a single line or a block of lines. The commands that operate on blocks require you to place the command on both the first and last lines of the block.

Line commands are processed using the **ispf_do_lc** command when you press **Enter**, **Ctrl**+**Enter** or the

Right Control key, depending on your preferences. Several commands or line labels can be entered and then processed at one time. The **ispf_reset** command is used to clear the prefix area.

Table 11.8. ISPF Line Commands

Command	**Description**
ISPF Line Labels	Define a label.
ISPF Line Command Shift	Shift data left or right.
ISPF Line Command A	Identify a line after which lines are to be inserted.
ISPF Line Command B	Identify a line before which lines are to be inserted.
ISPF Line Command BNDS	Insert a column boundary ruler line.
ISPF Line Command Copy S	Specify lines to be copied to another location.
ISPF Line Command COL	Insert a column ruler line.
ISPF Line Command Delete	Delete one or more lines.
ISPF Line Command First	Expose one or more lines at the beginning of a block of excluded lines.
ISPF Line CommandI	Insert one or more blank data entry lines.
ISPF Line Command Lowercase	Convert all uppercase letter alphabetic characters in one or more lines to lowercase.
ISPF Line Command Last	Expose one or more lines at the beginning of a block of excluded lines.
ISPF Line Command Move	Specify lines to be moved to another location.
ISPF Line Command MASK	Display the contents of the mask used with the in-sert (**I**) and text entry (**TE**) line commands.
ISPF Line Command Make Data	Convert one or more no-save lines to data so that they may be saved when the buffer is saved.
ISPF Line Command Overlay	Identify one or more lines over which the copy or move block is to be overlaid.
ISPF Line Command Repeat	Specify lines to be repeated immediately following this line or block.

Command	Description
ISPF Line Command Show	Expose one or more lines having the left-most indentation level in a block of excluded lines.
ISPF Line Command TABS	Display the tab definition line.
ISPF Line Command TE	Insert one or more blank lines to allow power typing for text entry.
ISPF Line Command TF	Reflow paragraphs according to the current column boundary settings.
ISPF Line Command TJ	Join this line with the next line.
ISPF Line Command TS	Divide a line so that data can be added.
ISPF Line Command Uppercase	Convert all lowercase letter alphabetic characters in one or more lines to uppercase.
ISPF Line Command Exclude	Specify one or more lines to be hidden (excluded).
ISPF Line Command Select	Select a block of lines.

ISPF Line Command Documentation

ISPF Line Labels .label

Usage

`.`*`label`*, where *`label`* does not start with a **z**

Remarks

Define a label to be used as a marker to identify the given line. Labels are used to specify a particular line, such as in the **ispf_locate** command, or to specify a range of lines for an primary command to operate on. The following labels are built in to the ISPF emulation:

- **.zfirst** - The first line in the buffer (abbreviated **.zf**).
- **.zlast** - The last line in the buffer (abbreviated **.zl**).
- **.zcsr** - The current line the cursor is on (abbreviated **.zc**).

See Also

ispf_change, **ispf_copy**, **ispf_delete**, **ispf_exclude**, **ispf_find**, **ispf_flip**, **ispf_locate**, **ispf_paste**, **ispf_reset**, **ispf_sort**

ISPF Shift Lines Left or Right

Usage

- **([*n*]** - Shift the current line ***n*** columns left, default **2**
- **(([*n*]** - Shift the block of lines ***n*** columns left, default **2**
- **) [*n*]** - Shift the current line ***n*** columns right, default **2**
- **)) [*n*]** - Shift the block of lines ***n*** columns right, default **2**
- **< [*n*]** - Data shift the current line ***n*** columns left, default **2**
- **<< [*n*]** - Data shift the block of lines ***n*** columns left, default **2**
- **> [*n*]** - Data shift the current line ***n*** columns right, default **2**
- **>> [*n*]** - Data shift the block of lines ***n*** columns right, default **2**

Remarks

This set of commands is used for shifting data left or right. The versions using parenthesis shift text literally, while the other versions attempt to intelligently shift text without disturbing line numbers or comments. In all cases, the default number of columns that the text is shifted is two.

There are two forms to these commands. The single character forms **(**, **)**, **<**, or **>** specifies that the line and the subsequent ***n-1*** lines are to be shifted. The two-character block forms are placed on the first and last lines of the block to be shifted.

Data is shifted only within the columns defined by the current bounds, or if bounds is turned off, but there is a truncation column, between column 1 and the truncation column. If the shift operation results in data moving beyond the right or left margins, it is truncated and there is no warning message.

See Also

ispf_bounds

ISPF Insert After A

Usage

A [*n*]

Remarks

Identifies a line after which copied or moved lines are to be inserted ***n*** times. You are allowed to specify multiple **A**, **B**, or **O** line commands to have the same copy or move block inserted in multiple places.

See Also

ispf_copy, **ispf_paste**, **ISPF Line Command B**, **ISPF Line Command Copy**, **ISPF Line Command Move**, **ISPF Line Command Overlay**

ISPF Insert Before B

Usage

B [*n*]

Remarks

Identifies a line before which copied or moved lines are to be inserted ***n*** times. You are allowed to specify multiple **A**, **B**, or **O** line commands to have the same copy or move block inserted in multiple places.

See Also

ispf_copy, **ispf_paste**, **ISPF Line Command B**, **ISPF Line Command Copy**, **ISPF Line Command Move**, **ISPF Line Command Overlay**

ISPF Insert Bounds Ruler BNDS

Usage

BNDS

Remarks

Insert a column boundary ruler line. After this line is inserted, the **<** and **>** marks may be moved in order to adjust the column boundaries. Note that if you have multiple bounds lines, and you change one, the subsequent bounds lines will also be changed.

A column boundary line with one **<** sign indicates a left boundary and no right boundary (unbounded). A column boundary with one **>** sign indicates a single column boundary (left and right bounds are same).

See Also

ispf_bounds, **ISPF Line Command Shift**, **ISPF Line Command Overlay**

ISPF Copy Lines C and CC for blocks

Usage

- **C [*n*]** - Copy ***n*** lines starting with the line with the command.
- **CC** - Copy a block of lines, must match another **CC**.

Remarks

Specify lines to be copied to another location. There are two forms to this command. The first form (**C [*n*]**) specifies that the line and the subsequent ***`n-1`*** lines are to be copied. The second (block) form (**CC**) is placed on the first and last lines of the block to be copied. There can be only one copy block specified. Furthermore, you can not have both a move block and a copy block specified at the same time.

See Also

ISPF Line Command A, **ISPF Line Command B**, **ISPF Line Command Move**, **ISPF Line Command Overlay**

ISPF Insert Columns Ruler COLS or SCALE

Usage

COLS

SCALE

Remarks

Insert a column ruler line. The column ruler line is read-only.

See Also

ispf_bounds, **ispf_tabs**, **ISPF Line Command BNDS**, **ISPF Line Command TABS**

ISPF Delete Lines D and DD for blocks

Usage

- **D [*n*]** - Delete ***n*** lines starting with the line with the command.
- **DD** - Delete a block of lines, must match another **DD**.

Remarks

Deletes one or more lines. There are two forms to this command. The first form (**D [*n*]**) specifies that the line and the subsequent ***`n-1`*** lines are to be deleted. The second (block) form (**DD**) is placed on the first and last lines of the block to be deleted.

See Also

ispf_delete

ISPF Expose First Lines F and FF

Usage

- **F [*n*]** - Unexclude (expose) the first ***n*** lines of an excluded block.
- **FF** - Unexclude (expose) an entire excluded block.

Remarks

Expose one or more lines at the beginning of a block of excluded lines. The **FF** line command exposes the entire block of lines and is to **F[*m*]** where ***m*** is the number of lines in the block of excluded lines.

See Also

ispf_exclude, **ispf_reset**, **ISPF Line Command Last**, **ISPF Line Command Show**, **ISPF Line Com-**

mand Exclude

ISPF Insert Lines

Usage

I [*n*]

Remarks

Insert one or more blank data entry lines.

See Also

ispf_enter, **ISPF Line Command TE**

ISPF Lowercase Lines LC, LCC and LCLC for blocks

Usage

- **LC [*n*]** - Lowercase ***n*** lines starting with the line with the command.
- **LCC** - Lowercase a block of lines, must match another **LCC** or **LCLC**.
- **LCLC** - Lowercase a block of lines, must match another **LCC** or **LCLC**.

Remarks

Converts all uppercase letter alphabetic characters in one or more lines to lowercase. This command only operates on text within the edit boundary columns. There are two forms to this command. The first form (**LC [*n*]**) specifies that the line and the subsequent ***n-1*** lines are to be converted. The second (block) form (**LCLC** or **LCC**) is placed on the first and last lines of the block to be converted.

See Also

ispf_caps, **ISPF Line Command Uppercase**, **lowcase**, **upcase**

ISPF Expose Last Lines L and LL

Usage

- **L [*n*]** - Unexclude (expose) the last ***n*** lines of an excluded block.
- **LL** - Unexclude (expose) an entire excluded block (identical to **FF**).

Remarks

Expose one or more lines at the end of a block of excluded lines. The **LL** line command exposes the entire block of lines and is to **L[*m*]** where ***m*** is the number of lines in the block of excluded lines.

See Also

ispf_exclude, **ispf_reset**, **ISPF Line Command First**, **ISPF Line Command Show**, **ISPF Line Com-**

mand Exclude

ISPF Move Lines M and MM for blocks

Usage

- **M [*n*] -** Move ***n*** lines starting with the line with the command.
- **MM** - Move a block of lines, must match another **MM**.

Remarks

Specify lines to be moved to another location. There are two forms to this command. The first form (**M [*n*]**) specifies that the line and the subsequent **n-1** lines are to be moved. The second (block) form (**MM**) is placed on the first and last lines of the block to be moved. There can be only one move block specified. Furthermore, you cannot have both a move block and a copy block specified at the same time.

See Also

ISPF Line Command A, **ISPF Line Command B**, **ISPF Line Command Copy**, **ISPF Line Command Overlay**

ISPF Insert Mask Line MASK

Usage

MASK

Remarks

Displays the contents of the mask used with the insert (**I**) and text entry (**TE**) line commands. Normally, when a line is inserted, the line is initially blank. By specifying an insert mask, you can insert a block of lines with a particular template. The **MASK** line is editable. Note that if you specify multiple masks in one file, only the first mask is used.

See Also

ISPF Line Command I, **ISPF Line Command TE**, **ISPF Line Command TS**

ISPF Make Data Lines MD, MDD and MDMD for blocks

Usage

- **MD [*n*] -** Make ***n*** data lines starting with the line with the command.
- **MDD -** Make a block of lines data, must match another **MDD** or **MDMD**.
- **MDMD -** Make a block of lines data, must match another **MDD** or **MDMD**.

Remarks

Converts one or more no-save lines to data so that they may be saved when the buffer is saved. There are two forms to this command. The first form (**MD [*n*]**) specifies that the line and the subsequent **n-1** lines are to be converted. The second (block) form (**MDMD** or **MDD**) is placed on the first and last lines of the block to be converted.

See Also

ISPF Line Commands, **ISPF Line Command COLS**, **ISPF Line Command BNDS**, **ISPF Line Command MASK**, **ISPF Line Command TABS**

ISPF Overlay Lines O and OO for blocks

Usage

- **O [*n*]** - Overlay ***n*** lines starting with the line with the command.
- **OO** - Overlay a block of lines, must match another **OO**.

Remarks

Identifies one or more lines over which the copy or move block is to be overlaid. Text is only overlaid within the column boundaries. If the copy or move block has less lines than the overlay, it is repeated until it fills the entire overlay block.

There are two forms to this command. The first form (**O [*n*]**) specifies that the line and the subsequent ***n-1*** lines are to be overlaid. The second (block) form (**OO**) is placed on the first and last lines of the block to be overlaid.

You are allowed to specify multiple **A**, **B**, or **O** line commands to have the same copy or move block inserted or overlaid in multiple places.

See Also

ispf_copy, **ispf_paste**, **ISPF Line Command A**, **ISPF Line Command B**, **ISPF Line Command Copy**, **ISPF Line Command Move**, **ISPF Line Command Overlay**

ISPF Repeat Lines

Usage

- **R [*n*]** - Repeat the line with the command ***n*** times.
- **RR [*n*]** - Repeat the block ***n*** times, must match another **RR**.

Remarks

Specify lines to be repeated immediately following this line or block. There are two forms to this command. The first form (**R[*n*]**) specifies that the line is to be repeated ***n*** times. The second (block) form (**RR[*n*]**) is placed on the first and last lines of the block to be repeated ***n*** times.

See Also

ISPF Line Command A, **ISPF Line Command B**, **ISPF Line Command Copy**

ISPF Expose Next Level of Code S and SS

Usage

- **S [*n*]** - Unexclude (expose) the first ***n*** lines of an excluded block.
- **SS** - Unexclude (expose) an entire excluded block.

Remarks

Expose one or more lines having the leftmost indentation level in a block of excluded lines. The **SS** line command exposes the entire block of lines and is to **S[*m*]** where ***m*** is the number of lines in the block of excluded lines.

See Also

ispf_exclude, **ispf_reset**, **ISPF Line Command First**, **ISPF Line Command Last**, **ISPF Line Command Exclude**

ISPF Insert Tabs Ruler TABS or TABL

Usage

TABS

TABL

Remarks

Displays the tab definition line. After this line is inserted, the ***** marks may be moved in order to adjust the tab positions. Note that if you have multiple tabs lines, and you change one, the subsequent tabs lines will also be changed.

See Also

ispf_tabs, **tabs**

ISPF Insert Text TE

Usage

TE [*n*]

Remarks

Inserts one or more blank lines to allow power typing for text entry. This command is identical to the insert (**I**) command, except that it switches the mode to wrap lines.

See Also

ispf_enter, **ISPF Line Command I**, **ISPF Line Command MASK**

ISPF Insert Lines TF

Usage

TF

Remarks

Reflows paragraphs according to the current column boundary settings.

See Also

reflow_paragraph

ISPF Join Lines TJ

Usage

TJ

Remarks

Join this line with the next line.

See Also

ISPF Line Command TS, **join_line**

ISPF Split Line TS

Usage

TS

Remarks

Divides a line so that data can be added. The line is split at the column in which the cursor is in when you press **Enter**. This command does not support multiple lines.

See Also

ISPF Line Command TJ, **split_insert_line**

ISPF Uppercase Lines UC, UCC and UCUC for blocks

Usage

- **UC [*n*]** - Uppercase ***n*** lines starting with the line with the command.
- **UCC** - Uppercase a block of lines, must match another **UCC** or **UCC**.
- **UCUC** - Uppercase a block of lines, must match another **UCC** or **UCUC**.

Remarks

Converts all lowercase letter alphabetic characters in one or more lines to uppercase. This command only operates on text within the edit boundary columns. There are two forms to this command. The first form,

UC [*n*], specifies that the line and the subsequent **n-1** lines are to be converted. The second (block) form (**UCUC** or **UCC**) is placed on the first and last lines of the block to be converted.

See Also

ispf_caps, **ISPF Line Command Lowercase**, **lowcase**, **upcase**

ISPF Exclude Lines X and XX for blocks

Usage

- **X [*n*]** - Exclude ***n*** lines starting with the line with the command.
- **XX** - Exclude a block of lines, must match another **XX**.

Remarks

Specifies one or more lines to be hidden (excluded). There are two forms to this command. The first form (**X [*n*]**) specifies that the line and the subsequent ***n-1*** lines are to be excluded. The second (block) form (**XX**) is placed on the first and last lines of the block to be excluded.

See Also

ispf_exclude, **ispf_reset**, **ISPF Line Command First**, **ISPF Line Command Last**, **ISPF Line Command Show**

ISPF Select Lines Z and ZZ for blocks

Usage

- **Z [*n*]** - Select ***n*** lines starting with the line with the command.
- **ZZ** - Select a block of lines, must match another **ZZ**.

Remarks

Select a block of lines. There are two forms to this command. The first form (**Z [*n*]**) specifies that the line and the subsequent ***n-1*** lines are to be selected. The second (block) form (**ZZ**) is placed on the first and last lines of the block to be selected.

See Also

ispf_cut, **ispf_paste**

XEDIT Line Commands

The following XEDIT line commands are supported and override the like-named ISPF commands when there is a conflict. XEDIT commands can be enabled using the ISPF Options dialog box (**Window** → **Preferences**, expand **SlickEdit** and click **General** in the tree, then double-click the **ISPF Options** setting).

Table 11.9. XEDIT Line Commands

XEDIT	ISPF	Description
/	**R**	Repeat the marked line.
F	**A**	Paste text following line.
A	**I**	Add (insert) line(s).
P	**B**	Paste text before line.
L	**LC**	Make line lowercase.
LL	**LCC**	Make block lowercase.
U	**UC**	Make line uppercase.
UU	**UCC**	Make block uppercase.

Note the following conflicts with standard ISPF edit line commands:

- **F** conflicts with unexclude first (**F**).
- **A** conflicts with paste after (**A**).
- **L** conflicts with unexclude last (**L**).
- **LL** conflicts with unexclude block (**LL**).

ISPF Unsupported Primary Commands

The table below shows ISPF primary commands that are not supported in the ISPF emulation mode. The unsupported commands fall into two categories. First, some ISPF commands are made obsolete by more powerful features, such as **recovery**, **profile**, and **setundo**. Second, some commands reflect features that we chose not to implement for the emulation, such as ISPF macros, PDF statistics, model, and pack.

Table 11.10. Unsupported ISPF Primary Commands

Command	Description
autolist	Control the automatic printing of data to the ISPF list data set.
builtin	Process a built-in command, even if overloaded by a macro.
define	Define a name as an alias or macro.

Command	Description
imacro	Save the name of an initial macro in the edit profile.
level	Set the modification level number in PDF library statistics.
model	Copy a model into the buffer or defines a model class.
notes	Control whether the MODEL command display notes or not.
nulls	Control null spaces.
pack	Control whether data is to be stored compressed or not.
profile	Display edit profile.
recovery	Specify edit recovery options.
rmacro	Save a recovery macro in the edit profile.
setundo	Control the UNDO mode.
stats	Generate library statistics.
version	Set the version number in the PDF library statistics.
view	Save as browse command but prompts on save.

The following commands *are* supported in ISPF emulation mode.

Table 11.11. Supported ISPF Commands

Command	Description
ispf_bottom	Move cursor to the end of the buffer.
ispf_down	Move cursor to next page of text.
ispf_enter	Handle the **Enter** key or **Right Control** key in ISPF emulation.

Command	Description
ispf_home	Place the focus on the command line in ISPF emulation.
ispf_retrieve	Does command line retrieval, getting the next command line from the list.
ispf_retrieve_back	Identical to the **ispf_retrieve back** command.
ispf_top	Move cursor up to the top of the buffer.
ispf_up	Move cursor up to the previous page of text.
ispf_do_lc	Immediately process all commands found in the line prefix area.

Regular Expression Syntax

This section provides lists of the UNIX, SlickEdit®, and Brief regular expression syntaxes, samples, and Unicode category specifications.

UNIX Regular Expressions

UNIX regular expressions are defined in the following table.

Table 11.12. UNIX Regular Expression

UNIX Regular Expression	**Definition**
^	Matches beginning of line.
$	Matches end of line.
.	Matches any character except newline.
X+	Maximal match of one or more occurrences of X. See Minimal versus Maximal Matching.
X*	Maximal match of zero or more occurrences of X.
X?	Maximal match of zero or one occurrences of X.
X{*n1*}	Match exactly ***n1*** occurrences of X.
X{*n1*,}	Maximal match of at least ***n1*** occurrences of X.
X{,*n2*}	Maximal match of at least zero occurrences but not more than ***n2*** occurrences of X.
X{*n1*,*n2*}	Maximal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
X+?	Minimal match of one or more occurrences of X.
X*?	Minimal match of zero or more occurrences of X.
X??	Minimal match of zero or one occurrences of X.
X{*n1*}?	Matches exactly *n1* occurrences of X.

UNIX Regular Expression	Definition
X{*n1*,}?	Minimal match of at least ***n1*** occurrences of X.
X{,*n2*}?	Minimal match of at least zero occurrences but not more than ***n2*** occurrences of X.
X{*n1*,*n2*}?	Minimal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
(?!X)	Search fails if expression X is matched. The expression **^(?!if)** matches the beginning of all lines that do not start with **if**.
(X)	Matches sub-expression X and specifies a new tagged expression (see Using Tagged Search Expressions). No more tagged expressions are defined once an explicit tagged expression number is specified as shown below.
(?*d*X)	Matches sub-expression X and specifies to use tagged expression number *d* where **0<=*d*<=9**. No more tagged expressions are defined by the sub-expression syntax **(X)** once this sub-expression syntax is used. This is the best way to make sure you have enough tagged expressions.
(?:X)	Matches sub-expression X but does not define a tagged expression.
X|Y	Matches X or Y.
[*char-set*]	Matches any one of the characters specified by ***char-set***. A dash (-) character may be used to specify ranges. The expression **[A-Z]** matches any uppercase letter. A backslash (\) may be used inside the square brackets to define literal characters or define ASCII characters. For example, **\-** specifies a literal dash character. The expression **[\d0-\d27]** matches ASCII character codes **0..27**. The expression **[]]** matches a right bracket. In SlickEdit® regular expressions, **[]** matches no characters. In both syntaxes, the expression **[\]]** matches a right bracket. The expression **[^]** matches a caret (^) character but this does not work for SlickEdit regular expressions. In both syntaxes, **[\^]** matches a caret (^) character.

UNIX Regular Expression	Definition
[^*char-set*]	Matches any character not specified by ***char-set***. A dash (-) character may be used to specify ranges.
[*char-set1* - [*char-set2*]]	Character set subtraction. Matches all characters in ***char-set1*** except the characters in ***char-set2***. The expression **[^A-Z]** matches all characters except uppercase letters. For example, **[a-z-[qw]]** matches all English lowercase letters except **q** and **w**. **[\p{L}-[qw]]** matches all Unicode lowercase letters except **q** and **w**.
[*char-set1* & [*char-set2*]	Character set intersection. Matches all characters in ***char-set1*** that are also in ***char-set2***. For example, **[\x{0}-\x{7f}&[\p{L}]]** matches all letters between 0 and 127.
\x{*hhhh*}	Matches up to 31-bit Unicode hexadecimal character specified by ***hhhh***.
\p{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters in ***UnicodeCategorySpec***. Where ***UnicodeCategorySpec*** uses the standard general categories specified by the Unicode consortium. For example, **[\p{L}]** matches all letters. **[\p{Lu}]** matches all uppercase letters. See Unicode Category Specifications for Regular Expressions.
\P{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters not in ***UnicodeCategorySpec***. For example, **[\P{L}]** matches all characters that are not letters. This is equivalent to **[^\p{L}]**. **[\P{Lu}]** matches all characters that are not uppercase letters. See Unicode Category Specifications for Regular Expressions.
\p{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters in *UnicodeIsBlockSpec*. Where *UnicodeIsBlockSpec* one of the standard character blocks specified by the Unicode consortium. For example, **[\p{isGreek}]** matches Unicode characters in the Greek block. See Unicode Character Blocks for Regular Expressions.
\P{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters not in *UnicodeIsBlockSpec*. For example, **[\P{isGreek}]** matches all characters that are not in

UNIX Regular Expression	Definition
	the Unicode Greek block. This is equivalent to **[^\p{isGreek}]**. See Unicode Character Blocks for Regular Expressions.
\x*hh*	Matches hexadecimal character ***hh*** where **0<=*hh*<=0xff**.
\d*ddd*	Matches decimal character ***ddd*** where **0<=*ddd*<=255**.
\*d*	Defines a back reference to tagged expression number *d*. For example, **{abc}def\0** matches the string **abcdefabc**. If the tagged expression has not been set, the search fails.
\c	Specifies cursor position if match is found. If the expression **xyz\c** is found the cursor is placed after the **z**.
\n	Matches newline character sequence. Useful for matching multi-line search strings. What this matches depends on whether the buffer is a DOS (ASCII 13,10 or just ASCII 10), UNIX (ASCII 10), Macintosh (ASCII 13), or user-defined ASCII file. Use **\d10** if you want to match an ASCII 10 character.
\r	Matches carriage return (ASCII 13). What this matches depends on whether the buffer is a DOS (ASCII 13,10 or just ASCII 10), UNIX (ASCII 10), Macintosh (ASCII 13), or user defined ASCII file.
\t	Matches tab character.
\f	Matches form feed character.
\od	Matches any 2-byte DBCS character. This escape is only valid in a match set (**[...\od...]**). **[^\od]** matches any single byte character excluding end-of-line characters. When used to search Unicode text, this escape does nothing.
\om	Turns on multi-line matching. This enhances the match character set, or match any character primitives to support matching end-of-line characters. For example, **\om.+** matches the rest of the buffer.

UNIX Regular Expression	Definition
\ol	Turns off multi-line matching (default). You can still use **\n** to create regular expressions which match one or more lines. However, expressions like **.+** will not match multiple lines. This is much safer and usually faster than using the **\om** option.
\*char*	Declares character after slash to be literal. For example, **\*** represents the star character.
\\:*char*	Matches predefined expression corresponding to ***char***. The pre-defined expressions are: • **\\:a [A-Za-z0-9]** - Matches an alphanumeric character. • **\\:c [A-Za-z]** - Matches an alphabetic character. • **\\:b (?:[\t]+)** - Matches blanks. • **\\:d [0-9]** - Matches a digit. • **\\:f (?:[^\\[\\]\\:\\\\/<>|=+;, \t"']+)** - Windows: Matches a file name part. • **\\:f (?:[^/ \t"']+)** - UNIX: Matches a file name part. • **\\:h (?:[0-9A-Fa-f]+)** - Matches a hex number. • **\\:i (?:[0-9]+)** - Matches an integer. • **\\:n (?:(?:[0-9]+(?:\\.[0-9]+|)|\\.[0-9]+)(?:[Ee](?:\\+|-|)[0-9]+|))** - Matches a floating number. • **\\:p (?:(?:[A-Za-z]:|)(?:\\\\\|/|)(?:\\:f(?:\\\\\|/))*\\:f)** - Windows: Matches a path. • **\\:p (?:(?:/|)?:(?::f(/))*\\:f)** - UNIX: Matches a path. • **\\:q (?:\\"[^\\"]*\\"|'[^']*')** - Matches a quoted string. • **\\:v (?:[A-Za-z_$][A-Za-z0-9_$]*)** - Matches a C variable. • **\\:w (?:[A-Za-z]+)** - Matches a word.

The precedence of operators, from highest to lowest, is as follows:

- **+**, *****, **?**, **{}**, **+?**, ***?**, **??**, **{}?** (These operators have the same precedence.)
- concatenation
- **|**

UNIX Regular Expression Examples

The table below shows examples of UNIX regular expressions.

Table 11.13. UNIX Regular Expression Examples

Sample UNIX Expression	Description
^defproc	Matches lines that begin with the word **defproc**.
^definit$	Matches lines that only contain the word **definit**.
^\*name	Matches lines that begin with the string ***name**. Notice that the backslash must prefix the special character *****.
[\t]	Matches tab and space characters.
[\d9\d32]	Matches tab and space characters.
[\x9\x20]	Matches tab and space characters.
p.t	Matches any three letter string starting with the letter **p** and ending with the letter **t**. Two possible matches are **pot** and **pat**.
s.*?t	Matches the letter **s** followed by any number of characters followed by the nearest letter **t**. Two possible matches are **seat** and **st**.
for|while	Matches the strings **for** or **while**.
^\:p	Matches lines beginning with a file name.
xy+z	Matches **x** followed by one or more occurrences of **y** followed by **z**.
[a-z-[qw]]	Character set subtraction. Matches all English lowercase letters except **q** and **w**.
[\p{isGreek}&[\p{L}]]	Character set intersection. Matches all Unicode let-

Sample UNIX Expression	Description
	ters in the Greek block.
\x{6587}	Matches Unicode character with hexadecimal value **6587**. Character set intersection. Matches all Unicode letters in the Greek block.
[\p{L}-[qw]]	Matches all Unicode letters except **q** and **w**.
[\p{L}]	Matches all Unicode letters.
[\p{Lul}]	Matches all Unicode uppercase and lowercase letters.
[\P{L}]	Matches all Unicode characters that are not letters.
[\p{isGreek}]	Matches all Unicode characters in the Greek block.

SlickEdit® Regular Expressions

SlickEdit regular expressions are defined in the following table.

Table 11.14. SlickEdit Regular Expressions

SlickEdit Regular Expression	Definition
^	Matches beginning of line.
$	Matches end of line.
?	Matches any character except newline.
X+	Minimal match of one or more occurrences of X. See Minimal versus Maximal Matching for more information.
X#	Maximal match of one or more occurrences of X.
X*	Minimal match of zero or more occurrences of X.
X@	Maximal match of zero or more occurrences of X.
X:*n1*	Matches exactly ***n1*** occurrences of X. Use **()** to

SlickEdit Regular Expression	Definition
	avoid ambiguous expressions. For example **a:9()1** searches for nine instance of the letter **a** followed by a **1**.
X:*n1*,	Maximal match of at least ***n1*** occurrences of X.
X:*n1*,*n2*	Maximal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
X:\n1*,**	Minimal match of at least ***n1*** occurrences of X.
X:n1*,*n2***	Minimal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
~X	Search fails if expression X is matched. The expression **^~(if)** matches the beginning of all lines that do not start with **if**.
(X)	Matches sub-expression X.
{X}	Matches sub-expression X and specifies a new tagged expression. See Using Tagged Search Expressions for more information.
{#*d*X}	Matches sub-expression X and specifies to use tagged expression number ***d*** where **0<=*d*<=9**.
X|Y	Matches X or Y.
[*char-set*]	Matches any one of the characters specified by ***char-set***. A dash (-) character may be used to specify ranges. The expression **[A-Z]** matches any uppercase letter. Backslash (\) may be used inside the square brackets to define literal characters or define ASCII characters. For example, **\\-** specifies a literal dash character. The expression **[\0-\27]** matches ASCII character codes **0..27**. The expression **[]** matches no characters. In UNIX regular expressions, **[]]** matches a right bracket. In both syntaxes, the expression **[\\]]** matches a right bracket. The expression **[\\^]** matches a caret (^) character in both syntaxes.
[~*char-set*]	Matches any character not specified by ***char-set***. A dash (-) character may be used to specify ranges. The expression **[~A-Z]** matches all characters ex-

SlickEdit Regular Expression	Definition
	cept uppercase letters.
[^*char-set*]	Same as **[~*char-set*]** above.
[*char-set1* - [*char-set2*]]	Character set subtraction. Matches all characters in ***char-set1*** except the characters in ***char-set2***. For example, **[a-z-[qw]]** matches all English lowercase letters except **q** and **w**. **[\p{L}-[qw]]** matches all Unicode lowercase letters except **q** and **w**.
[*char-set1* & [*char-set2*]]	Character set intersection. Matches all characters in ***char-set1*** that are also in ***char-set2***. For example, **[\x{0}-\x{7f}&[\p{L}]]** matches all letters between 0 and 127.
\x{*hhhh*}	Matches up to 31-bit Unicode hexadecimal character specified by ***hhhh***.
\p{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters in ***UnicodeCategorySpec***. Where ***UnicodeCategorySpec*** uses the standard general categories specified by the Unicode consortium. For example, **[\p{L}]** matches all letters. **[\p{Lu}]** matches all uppercase letters. See Unicode Category Specifications for Regular Expressions.
\P{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters not in ***UnicodeCategorySpec***. For example, **[\P{L}]** matches all characters that are not letters. This is equivalent to **[^\p{L}]**. **[\P{Lu}]** matches all characters that are not uppercase letters. See Unicode Category Specifications for Regular Expressions.
\p{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters in ***UnicodeIsBlockSpec***. Where ***UnicodeIsBlockSpec*** one of the standard character blocks specified by the Unicode consortium. For example, **[\p{isGreek}]** matches Unicode characters in the Greek block. See Unicode Character Blocks for Regular Expressions.
\P{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters not in ***UnicodeIsBlockSpec***. For example, **[\P{isGreek}]** matches all characters that are not in the Unicode Greek block. This is equivalent to **[^\p{isGreek}]**. See Unicode Character Blocks for

SlickEdit Regular Expression	Definition
	Regular Expressions.
\x*hh*	Matches hexadecimal character ***hh*** where **0<=*hh*<=0xff**.
\*ddd*	Matches decimal character ***ddd*** where **0<=*ddd*<=255**.
\g*d*	Defines a back reference to tagged expression number ***d***. For example, **{abc}def\g0** matches the string **abcdefabc**. If the tagged expression has not been set, the search fails.
\c	Specifies cursor position if match is found. If the expression **xyz\c** is found, the cursor is placed after the **z**.
\n	Matches newline character sequence. Useful for matching multi-line search strings. What this matches depends on whether the buffer is a DOS (ASCII 13,10 or just ASCII 10), UNIX (ASCII 10), Macintosh (ASCII 13), or user-defined ASCII file. Use **\d10** if you want to match an ASCII 10 character.
\r	Matches carriage return.
\t	Matches tab character.
\b	Matches backspace character.
\f	Matches form feed character.
\od	Matches any 2-byte DBCS character. This escape is only valid in a match set (**[...\od...]**). **[^\od]** matches any single byte character excluding end-of-line characters. When used to search Unicode text, this escape does nothing.
\om	Turns on multi-line matching. This enhances the match character set, or match any character primitives to support matching end-of-line characters. For example, **\om?#** matches the rest of the buffer. **Note**: Test the regular expression on a very small file before using it on a large file. This option may cause the editor to use a lot of memory.

SlickEdit Regular Expression	Definition
\ol	Turns off multi-line matching (default). You can still use **\n** to create regular expressions which match one or more lines. However, expressions like **?#** will not match multiple lines. This is much safer and usually faster than using the **\om** option.
\*char*	Declares character after slash to be literal. For example, **\\:** represents the colon character.
:*char*	Matches predefined expression corresponding to ***char***. The predefined expressions are: • **:a [A-Za-z0-9]** - Matches an alphanumeric character. • **:b ([\t]#\\)** - Matches blanks - note that **:b** is not like the Perl/.NET **\s**. • **:c [A-Za-z]** - Matches an alphabetic character. • **:d [0-9]** - Matches a digit. • **:f ([~\\[\\]\\:\\\\/<>|=+;, \t"’]#)** - Windows: Matches a file name part. • **:f ([~/ \t"’]#)** - UNIX: Matches a file name part. • **:h ([0-9A-Fa-f]#)** - Matches a hex number. • **:i ([0-9]#)** - Matches an integer. • **:n (([0-9]#(.[0-9]#|)|.[0-9]#)([Ee](\\+|-|)[0-9]#|))** - Matches a floating number. • **:p (([A-Za-z]\\:|)(\\\\\|/|)(:f(\\\\\|/))@:f)** - Windows: Matches a path. • **:p ((/|)(:f(/))@:f)** - UNIX: Matches a path. • **:q (\\"[~\\"]@\\"|'[~']@')** - Matches a quoted string. • **:v ([A-Za-z_$][A-Za-z0-9_$]@)** - Matches a C variable. • **:w ([A-Za-z]#)** - Matches a word.

The precedence of operators, from highest to lowest, is as follows:

- **+**, #, *****, @, **:**, **:*** (These operators have the same precedence.)
- concatenation
- **|**

SlickEdit® Regular Expression Examples

The table below shows examples of SlickEdit regular expressions.

Table 11.15. SlickEdit Regular Expression Examples

Sample SlickEdit Regular Expression	Description
^defproc	Matches lines that begin with the word **defproc**.
^definit$	Matches lines that only contain the word **definit**.
^\\:name	Matches lines that begin with the string **:name**. Notice that the backslash must prefix the colon character (:).
[\t]	Matches tab and space characters.
[\9\32]	Matches tab and space characters.
[\x9\x20]	Matches tab and space characters.
p?t	Matches any three-letter string starting with the letter **p** and ending with the letter **t**. Two possible matches are **pot** and **pat**.
s?*t	Matches the letter **s** followed by any number of characters followed by the nearest letter **t**. Two possible matches are **seat** and **st**.
for|while	Matches the strings **for** or **while**.
^:p	Matches lines beginning with a file name.
xy+z	Matches **x** followed by one or more occurrences of **y** followed by **z**.

Brief Regular Expressions

Brief regular expressions are defined in the following table.

Table 11.16. Brief Regular Expressions

Brief Regular Expression	Definition
%	Matches beginning of line.
<	Matches beginning of line.
$	Matches end of line.
>	Matches end of line.
?	Matches any character except newline.
*****	Minimal match of zero or more of any character except newline. This is the same as **?@**.
X+	Minimal match of one or more occurrences of X. See Minimal versus Maximal Matching for more information.
X\\:*	Maximal match of zero or more of any character except newline. This is the same as **?\\:@**.
X\\:@	Maximal match of zero or more occurrences of X.
X\\:+	Maximal match of one or more occurrences of X.
X\\:*n1*	Matches exactly ***n1*** occurrences of X. Use **{}** to avoid ambiguous expressions. For example, **a:9{}1** searches for nine instances of the letter **a** followed by a **1**.
X\\:*n1*,	Maximal match of at least ***n1*** occurrences of X.
X\\:,*n2*	Maximal match of at least zero occurrences but not more than ***n2*** occurrences of X.
X\\:*n1*,*n2*	Maximal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
X\\:*n1*?	Match exactly ***n1*** occurrences of X.
X\\:*n1*,?	Minimal match of at least *n1* occurrences of X.

Brief Regular Expression	Definition
X\:,*n2*?	Minimal match of at least zero occurrences but not more than ***n2*** occurrences of X.
X\:*n1*,*n2*?	Minimal match of at least ***n1*** occurrences but not more than ***n2*** occurrences of X.
\(X\)	Matches sub-expression X but does not define a tagged expression.
{X}	Matches sub-expression X and specifies a new tagged expression. See Using Tagged Search Expressions for more information.
{@*d*X}	Matches sub-expression X and specifies to use tagged expression number ***d*** where **0<=*d*<=9**. No more tagged expressions are defined by the sub-expression syntax **{X}** once this sub-expression syntax is used. This is the best way to make sure you have enough tagged expressions.
X|Y	Matches X or Y.
[*char-set*]	Matches any one of the characters specified by ***char-set***. A dash (-) character may be used to specify ranges. The expression **[A-Z]** matches any uppercase letter. Backslash (\) can be used inside the square brackets to define literal characters or define ASCII characters. For example, **\-** specifies a literal dash character. The expression **[\0-\27]** matches ASCII character codes **0..27**. The expression **[]]** matches a right bracket. In SlickEdit® regular expressions, **[]** matches no characters. In both syntaxes, the expression **[\]]** matches a right bracket.
[~*char-set*]	Matches any character not specified by ***char-set***. A dash (-) character may be used to specify ranges. The expression **[~A-Z]** matches all characters except uppercase letters. The expression **[~]** matches any character except newline.
[*char-set1* - [*char-set2*]]	Character set subtraction. Matches all characters in ***char-set1*** except the characters in ***char-set2***. For example, **[a-z-[qw]]** matches all English lowercase letters except **q** and **w**. **[\p{L}-[qw]]** matches

Brief Regular Expression	Definition
	all Unicode lowercase letters except **q** and **w**.
[*char-set1* & [*char-set2*]]	Character set intersection. Matches all characters in ***char-set1*** that are also in ***char-set2***. For example, **[\x{0}-\x{7f}&[\p{L}]]** matches all letters between 0 and 127.
\x{*hhhh*}	Matches up to 31-bit Unicode hexadecimal character specified by ***hhhh***.
\p{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters in ***UnicodeCategorySpec***. Where ***UnicodeCategorySpec*** uses the standard general categories specified by the Unicode consortium. For example, **[\p{L}]** matches all letters. **[\p{Lu}]** matches all uppercase letters. See Unicode Category Specifications for Regular Expressions.
\P{*UnicodeCategorySpec*]	(Only valid in character set) Matches characters not in ***UnicodeCategorySpec***. For example, **[\P{L}]** matches all characters that are not letters. This is equivalent to **[^\p{L}]**. **[\P{Lu}]** matches all characters that are not uppercase letters. See Unicode Category Specifications for Regular Expressions.
\p{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters in ***UnicodeIsBlockSpec***. Where ***UnicodeIsBlockSpec*** one of the standard character blocks specified by the Unicode consortium. For example, **[\p{isGreek}]** matches Unicode characters in the Greek block. See Unicode Character Blocks for Regular Expressions.
\P{*UnicodeIsBlockSpec*]	(Only valid in character set) Matches characters not in ***UnicodeIsBlockSpec***. For example, **[\P{isGreek}]** matches all characters that are not in the Unicode Greek block. This is equivalent to **[^\p{isGreek}]**. See Unicode Character Blocks for Regular Expressions.
\x*hh*	Matches hexadecimal character ***hh*** where **0<=*hh*<=0xff**.
\d*ddd*	Matches decimal character *ddd* where **0<=*ddd*<=255**.

Brief Regular Expression	Definition
\*d*	Defines a back reference to tagged expression number ***d***. For example, **{abc}def\\0** matches the string **abcdefabc**. If the tagged expression has not been set, the search fails.
\\c	Specifies cursor position if match is found. If the expression **xyz\\c** is found, the cursor is placed after the **z**.
\\n	Matches newline character sequence. Useful for matching multi-line search strings. What this matches depends on whether the buffer is a DOS (ASCII 13,10 or just ASCII 10), UNIX (ASCII 10), Macintosh (ASCII 13), or user defined ASCII file. Use **\\d10** if you want to match a 10 character.
\\r	Matches carriage return.
\\t	Matches tab character.
\\b	Matches backspace character.
\\f	Matches form feed character.
\\od	Matches any 2-byte DBCS character. This escape is only valid in a match set (**[...\\od...]**). **[~\\od]** matches any single byte character excluding end-of-line characters. When used to search Unicode text, this escape does nothing.
\\om	Turns on multi-line matching. This enhances the match character set, or match any character primitives to support matching end-of-line characters. For example, **\\om?\\@** matches the rest of the buffer.
\\ol	Turns off multi-line matching (default). You can still use **\\n** to create regular expressions which match one or more lines. However, expressions like **?\\@** will not match multiple lines. This is much safer and usually faster than using the **\\om** option.
\*char*	Declares character after slash to be literal. For example, **\*** represents the asterisk (*) character.
\\:*char*	Matches predefined expression corresponding to

Brief Regular Expression	Definition
	char. The predefined expressions are: • **\:a [A-Za-z0-9** - Matches an alphanumeric character. • **\:b\([\t]#\)** - Matches blanks. • **\:c [A-Za-z]** - Matches an alphabetic character. • **\:d [0-9]** - Matches a digit. • **\:f \([~\[\]\:\\/<>|=+;, \t"’]#\)** - Matches a file name part. • **\:f \([~/ \t"’]#\)** - UNIX: Matches a file name part. • **\:h\([0-9A-Fa-f]#\)** - Matches a hex number. • **\:i\([0-9]#\)** - Matches an integer. • **\:n\([0-9]#\(.[0-9]#|\)|.[0-9]#\)\([Ee]\(\+|-|\)[0-9]#|\)\)** - Matches a floating number. • **\:p\(\([A-Za-z]\:|\)\(\\\|/|\)\(:f\(\\\|/\)\)@:f\)** - Windows: Matches a path. • **\:p\(\(/|\)\(:f\(/\)\)@:f\)** - UNIX: Matches a path. • **\:q\(\"[~\"]@\"|'[~']@'\)** - Matches a quoted string. • **\:v\ ([A-Za-z_$][A-Za-z0-9_$]@\)** - Matches a C variable. • **\:w\ ([A-Za-z]#\)** - Matches a word.

Brief Regular Expression Examples

The table below shows example of Brief regular expressions.

Table 11.17. Brief Regular Expression Examples

Sample Brief Regular Expression	Description
<defproc	Matches lines that begin with the word **defproc**.
<definit>	Matches lines that only contain the word **definit**.
<*name	Matches lines that begin with the string ***name**. No-

Sample Brief Regular Expression	Description
	tice that the backslash must prefix the special character *****.
[\t]	Matches tab and space characters.
[\d9\d32]	Matches tab and space characters.
[\x9\x20]	Matches tab and space characters.
p?t	Matches any three-letter string starting with the letter **p** and ending with the letter **t**. Two possible matches are **pot** and **pat**.
s*t	Matches the letter **s** followed by any number of characters followed by the nearest letter **t**. Two possible matches are **seat** and **st**.
{for}|{while}	Matches the strings **for** or **while**.
^\:p	Matches lines beginning with a file name.
xy+z	Matches **x** followed by one or more occurrences of **y** followed by **z**.

Unicode Category Specifications for Regular Expressions

The Unicode consortium standard regular expression categories are supported. The syntax for specifying categories is:

\p{*`MainCategoryLetter Subcategories`*}

The above syntax matches the categories specified. The following syntax matches all characters *not* in the categories specified:

\P{*`MainCategoryLetter Subcategories`*}

The **\p** and **\P** notations can only be used inside a character set specification. ***`MainCategoryLetter`*** can be **L**, **M**, **N**, **P**, **S**, **Z**, or **C**. The valid ***`Subcategories`*** depend on the ***`MainCategoryLetter`*** specified. If no ***`Subcategories`*** are specified, all are assumed. For example:

- **[\p{L}]** matches all Unicode letters.
- **[\p{Lul}]** matches all uppercase and lowercase letters.
- **[\P{L}]** matches all characters that are not letters.

The following table lists the valid subcategories for a specific main category. These character tables were generated using the file `UnicodeData-3.1.0.txt` found on the Unicode Consortium Web site *ht-tp://unicode.org*).

Table 11.18. Unicode SubCategories for Regular Expressions

Subcategory	Description
Lu	Letter, Uppercase
Ll	Letter, Lowercase
Lt	Letter, Titlecase
Lo	Letter, Other
Mn	Mark, Non-Spacing
Mc	Mark, Spacing Combining
Me	Mark, Enclosing
Nd	Number, Decimal Digit
Nl	Number, Letter
No	Number, Other
Pc	Punctuation, Connector
Pd	Punctuation, Dash
Ps	Punctuation, Open
Pe	Punctuation, Close
Pi	Punctuation, Initial quote (may behave like Ps or Pe depending on usage)
Pf	Punctuation, Final quote (may behave like Ps or Pe depending on usage)
Po	Punctuation, Other
Sm	Symbol, Math

Subcategory	Description
Sc	Symbol, Currency
Sk	Symbol, Modifier
So	Symbol, Other
Zs	Separator, Space
Zl	Separator, Line
Zp	Separator, Paragraph
Cc	Other, Control
Cf	Other, Format
Cs	Other, Surrogate
Co	Other, Private Use
Cn	Other, Not Assigned (no characters in the file have this property)

Unicode Character Blocks for Regular Expressions

The Unicode consortium standard regular expression block categories are supported. The syntax for specifying a character block is:

\p{Is*BlockName*}

The above syntax matches the characters in the block specified. The following syntax matches all characters *not* in the block specified:

\P{Is*BlockName*}

The **\p** and **\P** notations may only be used inside a character set specification. For example, **[\p{isBasicLatin}]** matches all characters in the Greek block. **[\P{isBasicLatin}]** matches all characters that are not in the Greek block.

The following is a list of the non-standard valid character block names. This list was generated from XML standards found at the World Wide Web Consortium Web site (*http://www.w3c.org*).

- **XMLNameStartChar** - All characters that are valid for the start of an XML tag name.

- **XMLNameChar** - All characters that are valid in an XML tag name.

The following table lists the valid character block names. These character tables were generated using the `blocks.txt` file found on the Unicode Consortium Web site (*http://unicode.org*).

Table 11.19. Unicode Character Blocks for Regular Expressions

Range	Block Name
0000..007F	BasicLatin
0080..00FF	Latin-1Supplement
0100..017F	LatinExtended-A
0180..024F	LatinExtended-B
0250..02AF	IPAExtensions
02B0..02FF	SpacingModifierLetters
0300..036F	CombiningDiacriticalMarks
0370..03FF	Greek
0400..04FF	Cyrillic
0530..058F	Armenian
0590..05FF	Hebrew
0600..06FF	Arabic
0700..074F	Syriac
0780..07BF	Thaana
0900..097F	Devanagari
0980..09FF	Bengali
0A00..0A7F	Gurmukhi
0A80..0AFF	Gujarati
0B00..0B7F	Oriya

Range	Block Name
0B80..0BFF	Tamil
0C00..0C7F	Telugu
0C80..0CFF	Kannada
0D00..0D7F	Malayalam
0D80..0DFF	Sinhala
0E00..0E7F	Thai
0E80..0EFF	Lao
0F00..0FFF	Tibetan
1000..109F	Myanmar
10A0..10FF	Georgian
1100..11FF	HangulJamo
1200..137F	Ethiopic
13A0..13FF	Cherokee
1400..167F	UnifiedCanadianAboriginalSyllabics
1680..169F	Ogham
16A0..16FF	Runic
1780..17FF	Khmer
1800..18AF	Mongolian
1E00..1EFF	LatinExtendedAdditional
1F00..1FFF	GreekExtended
2000..206F	GeneralPunctuation
2070..209F	SuperscriptsandSubscripts

Range	Block Name
20A0..20CF	CurrencySymbols
20D0..20FF	CombiningMarksforSymbols
2100..214F	LetterlikeSymbols
2150..218F	NumberForms
2190..21FF	Arrows
2200..22FF	MathematicalOperators
2300..23FF	MiscellaneousTechnical
2400..243F	ControlPictures
2440..245F	OpticalCharacterRecognition
2460..24FF	EnclosedAlphanumerics
2500..257F	BoxDrawing
2580..259F	BlockElements
25A0..25FF	GeometricShapes
2600..26FF	MiscellaneousSymbols
2700..27BF	Dingbats
2800..28FF	BraillePatterns
2E80..2EFF	CJKRadicalsSupplement
2F00..2FDF	KangxiRadicals
2FF0..2FFF	IdeographicDescriptionCharacters
3000..303F	CJKSymbolsandPunctuation
3040..309F	Hiragana
30A0..30FF	Katakana

Range	Block Name
3100..312F	Bopomofo
3130..318F	HangulCompatibilityJamo
3190..319F	Kanbun
31A0..31BF	BopomofoExtended
3200..32FF	EnclosedCJKLettersandMonths
3300..33FF	CJKCompatibility
3400..4DB5	CJKUnifiedIdeographsExtensionA
4E00..9FFF	CJKUnifiedIdeographs
A000..A48F	YiSyllables
A490..A4CF	YiRadicals
AC00..D7A3	HangulSyllables
D800..DB7F	HighSurrogates
DB80..DBFF	HighPrivateUseSurrogates
DC00..DFFF	LowSurrogates
E000..F8FF	PrivateUse
F900..FAFF	CJKCompatibilityIdeographs
FB00..FB4F	AlphabeticPresentationForms
FB50..FDFF	ArabicPresentationForms-A
FE20..FE2F	CombiningHalfMarks
FE30..FE4F	CJKCompatibilityForms
FE50..FE6F	SmallFormVariants
FE70..FEFE	ArabicPresentationForms-B

Range	Block Name
FEFF..FEFF	Specials
FF00..FFEF	HalfwidthandFullwidthForms
FFF0..FFFD	Specials
10300..1032F	OldItalic
10330..1034F	Gothic
10400..1044F	Deseret
1D000..1D0FF	ByzantineMusicalSymbols
1D100..1D1FF	MusicalSymbols
1D400..1D7FF	MathematicalAlphanumericSymbols
20000..2A6D6	CJKUnifiedIdeographsExtensionB
2F800..2FA1F	CJKCompatibilityIdeographsSupplement
E0000..E007F	Tags

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