Visual Studio Project Fixer

by

Software Verify Limited

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Software Verify

Troubleshoot your software

Visual Studio Project Fixer

A companion tool for Visual Studio

by Software Verify Limited

Welcome to the Visual Studio Project Fixer software tool.
Visual Studio Project Fixer allows you to identify and fix errors in your project files that can cause Visual Studio to think the project needs rebuilding when it does not need rebuilding.

Visual Studio Project Fixer Help

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Table of Contents

Foreword 1

Part I How to get Visual Studio Project Fixer 2

Part II What does Visual Studio Project Fixer do? 4

Part III The menu 8

1 File ... 9
2 Edit ... 10
3 Software Updates ... 10
4 Help ... 13

Part IV The graphical user interface 16

1 The user interface ... 17
2 How to use Visual Studio Project Fixer ... 28
Choosing the projects to fix ... 28
Fixing Projects ... 32
3 Enabling Visual Studio Debugging Output ... 35
4 Modifying the settings ... 39
Search Directory ... 39
Source File Extensions ... 40
Header File Extensions ... 41
Resource File Extensions ... 42
Data Protection ... 43
Problem Detection ... 44
Colours ... 45
Solution Filters ... 46
Project Filters ... 46
File Filters ... 47
5 Fix Projects ... 48

Part V Command line interface 50

1 Projects and Solutions ... 51
2 Logging ... 53
3 Problem detection ... 53
4 Problem fixing ... 54
5 Solution Filters ... 55
6 Project Filters ... 55
7 File filters ... 56
8 Source file extensions ... 56
9 Header file extensions ... 56

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10 Resource file extensions 57
11 Command Line Reference 57

Index 60

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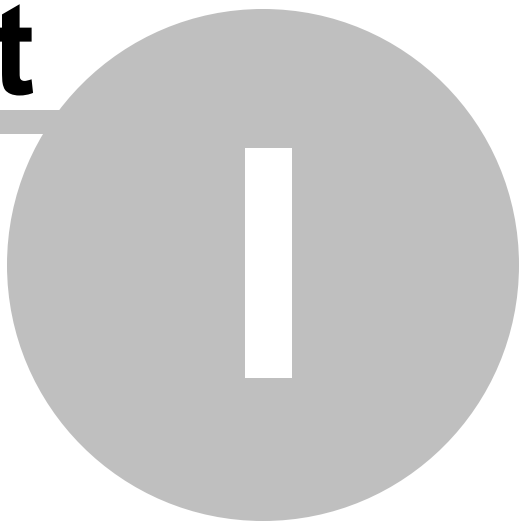

1 How to get Visual Studio Project Fixer

Visual Studio Project Fixer is free for commercial use. Visual Studio Project Fixer can be downloaded for Software Verify's website at https://www.softwareverify.com/product/visual-studio-project-fixer/.

This help manual is available in Compiled HTML Help (Windows Help files), PDF, and online.

Windows Help	https://www.softwareverify.com/documentation/chm/visualStudioProjectFixer.chm
PDF	https://www.softwareverify.com/documentation/pdfs/visualStudioProjectFixer.pdf
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Contact

Contact Software Verify at:

Software Verify Limited
Suffolk Business Park
Eldo House
Kempson Way
Bury Saint Edmunds
IP32 7AR
United Kingdom

sales	sales@softwareverify.com
support	support@softwareverify.com
web	https://www.softwareverify.com
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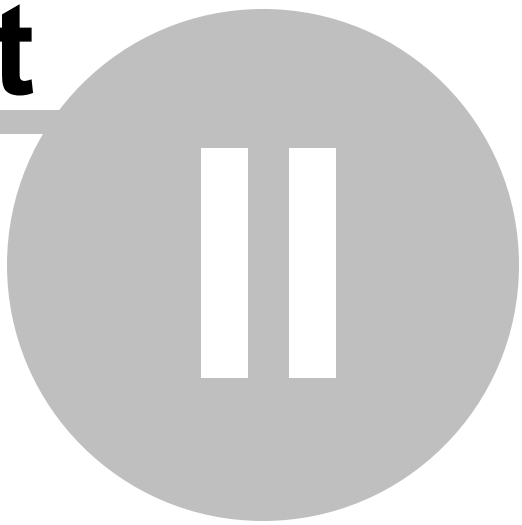

2 What does Visual Studio Project Fixer do?

Visual Studio Project Fixer scans your Visual Studio projects looking for errors which can cause Visual Studio to think the project needs building, even when you've just built it.

A graphical user interface and a command line interface are provided for interactive and automated use.

File Formats

Currently we support **.vcxproj** (Visual Studio 2010-2017) and **.vcproj** (Visual Studio 2002-2008) file formats.

At the time of writing **.dsp** (Visual Studio 6) project files are not supported.

Files

The files managed by a Visual Studio project are C and C++ source files, C and C++ header files and resource files. We've also added some file extensions that are not typically used by Microsoft, just in case someone is using these variants with Visual Studio. A full list of supported file extensions is shown below.

Source file extensions

c
cc
cpp
cxx
cp
c++

Header file extensions

h
hh
hpp
hxx
inl

Resource file extensions

bmp
cur
ico

Errors

The types of errors detected by Visual Studio Project Fixer are:

- Missing Files

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- Incorrect case files
- Incorrect Files
- Files that don't exist
- Obsolete files
- .tlog files

Visual Studio Project Fixer gives you complete control over what type of errors you detect and also over what type of errors you choose to fix. You can do this automatically from the command line or have a more interactive experience via the user interface.

Missing Files
These are files that should be in the project but which are not.

For example you added a source file **ImportantCode.cpp** but forgot to add the corresponding header file **ImportantCode.h**.

Incorrect Case Files
These are files that are in the project, and that exist on disk, but the case of the names in the project doesn't match the case of the names on disk.

Incorrect Files
These are files that are in the project, but they are specified incorrectly and identify a file that doesn't exist.

For example a file **uiWorkPackageEx.h** is listed, but the file has been moved since it's creation and the correct path should be **..\..\svlCommon\uiWorkPackage.h**

Files that don't exist
These are files that don't exist.

For example a file **..\..\testCode\usefulConstants.h**. This file once existed but has been deleted (or moved).

Obsolete files
These are files from a previous version of Visual Studio.

For example WinHelp files from Visual Studio 6.

.tlog files
These are Visual Studio dependency information files. These can get out of date and cause problems. Often deleting these files will fix build dependency errors. These files will be automatically rebuilt by Visual Studio.

Filters and backups

Backups
Visual Studio Project fixer automatically creates backups of any modified project. The backup has the date and time as part of it's filename, so it's easy to go back to a particular version.

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The default setting is that backups are when projects are saved. You can change this value from the settings dialog.

Filters
To prevent applying any of the fixes to specific files in a project file, Visual Studio Project Fixer provides a filter system to allow you to identify filenames that should be ignored when found in a project file.

Moved projects

We have added an option to prevent modifying Visual Studio projects that have been moved. We detect a moved project by identifying source files that don't exist. The reason for this is that a source file that doesn't exist will not compile and the build will fail, whereas a header or resource file that doesn't exist (unless it's referenced by another file) will not cause the build to fail, although it may cause Visual Studio to think the build is out of date.

The default setting is that moved projects are not modified. You can change this value from the settings dialog.

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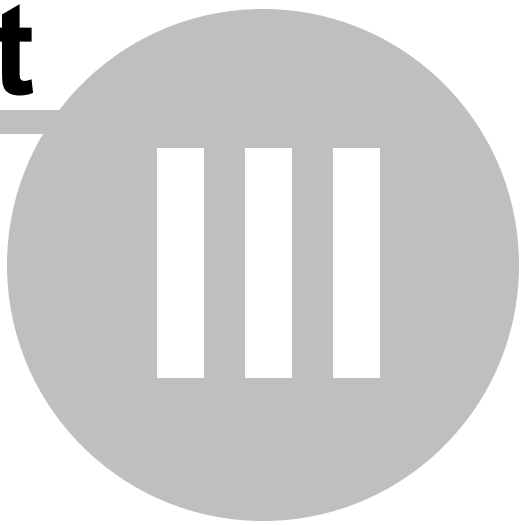
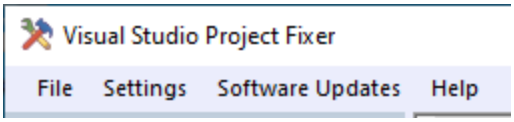


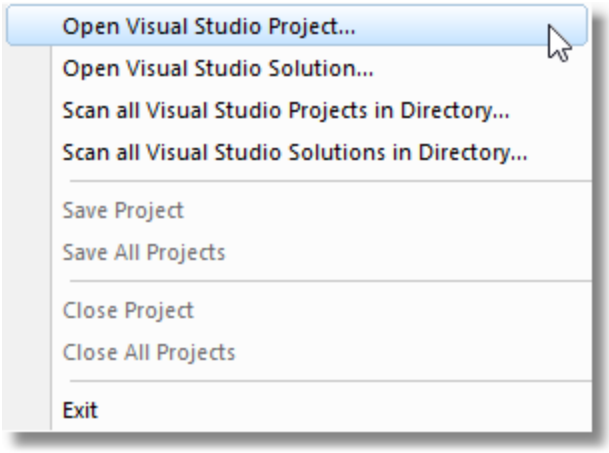
3 The menu

The Visual Studio Project Fixer has four sections, File, Edit, Software Updates and Help.



3.1 File

The File menu controls the loading and saving of groups of Visual Studio projects.



File menu → **Open Visual Studio Project...** → loads a Visual Studio Project and analyzes the project, adding it to the list of analyzed projects.

File menu → **Open Visual Studio Solution...** → loads a Visual Studio Solution and analyzes the solution and the projects it contains, adding the projects to the list of analyzed projects.

File menu → **Scan all Visual Studio Projects in Directory...** → scan a directory hierarchy, analyzing every Visual Studio Project that is found. Each project is added to the list of analyzed projects.

File menu → **Scan all Visual Studio Solutions in Directory...** → scan a directory hierarchy, analyzing every Visual Studio Solution and the projects the solution contains. Each project is added to the list of analyzed projects.

File menu → **Save Project** → saves the selected Visual Studio Project.

File menu → **Save All Projects** → saves all Visual Studio Projects.

File menu → **Close Project** → close the selected Visual Studio Project.

File menu → **Close All Projects** → closes all Visual Studio Projects.

File menu → **Exit** → closes Visual Studio Project Fixer.

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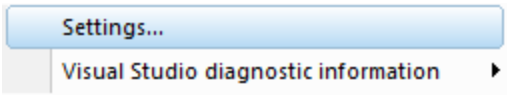
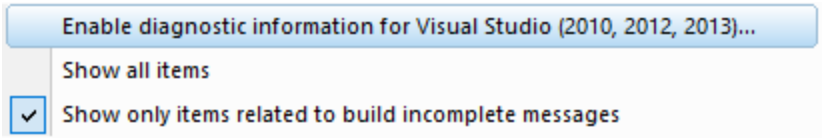
3.2 Edit

The Edit menu controls editing the settings, and enabling of diagnostic information in Visual Studio.



Edit menu ⇨ **Settings** ⇨ displays the settings dialog.

Edit menu ⇨ **Visual Studio diagnostic information...**



Edit menu ⇨ **Visual Studio diagnostic information** ⇨ **Enable diagnostic information** ⇨ makes changes to how Visual Studio reports diagnostic information.

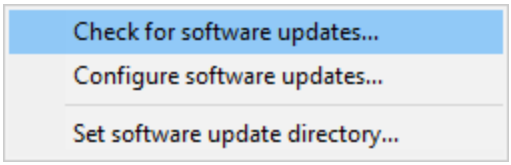
Edit menu ⇨ **Visual Studio diagnostic information** ⇨ **Show all items** ⇨ adds all items to the output including debug messages from Visual Studio via OutputDebugString().

Edit menu ⇨ **Visual Studio diagnostic information** ⇨ **Show only items related to build incomplete messages** ⇨ adds all items to the output excluding debug messages from Visual Studio via OutputDebugString().

3.3 Software Updates

The Software Updates menu controls how often software updates are downloaded.

If you've been notified of a new software release to Visual Studio Project Fixer or just want to see if there's a new version, this feature makes it easy to update.



Software Updates menu ⇨ **Check for software updates** ⇨ checks for updates and shows the software update dialog if any exist

An internet connection is needed to be able to make contact with our servers.

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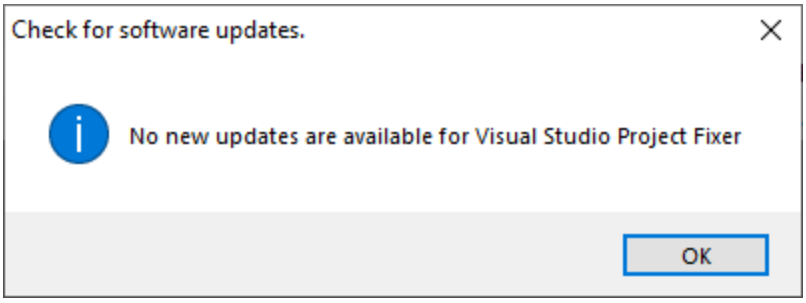
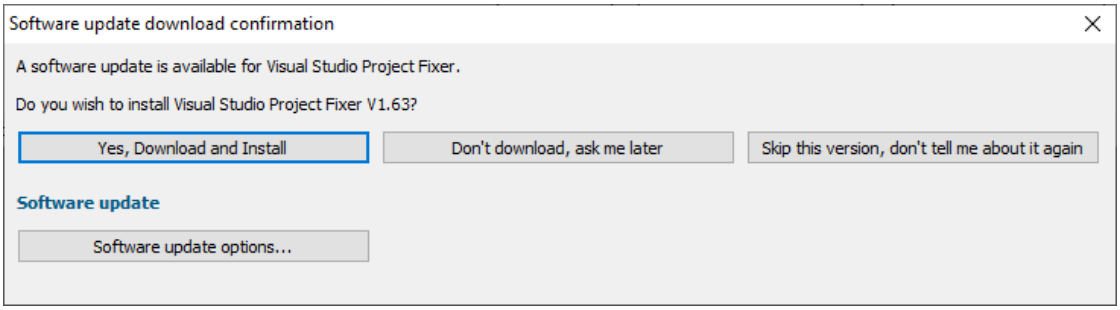
Before updating the software, close the help manual, and end any active session by closing target programs.

If no updates are available, you'll just see this message:

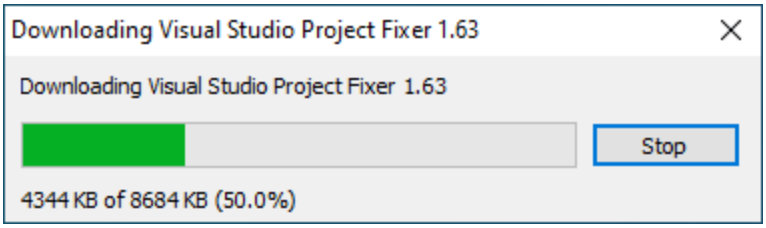


Software Update dialog

If a software update is available for Visual Studio Project Fixer you'll see the software update dialog.



- **Download and install** downloads the update, showing progress



  Once the update has downloaded, Visual Studio Project Fixer will close, run the installer, and restart.

  You can stop the download at any time, if necessary.

- **Don't download...** Doesn't download, but you'll be prompted for it again next time you start Visual Studio Project Fixer

- **Skip this version...** Doesn't download the update and doesn't bother you again until there's an even newer update

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- **Software update options...** edit the software update schedule

Problems downloading or installing?

If for whatever reason, automatic download and installation fails to complete:

- Download the latest installer manually from the software verify website.

Make some checks for possible scenarios where files may be locked by Visual Studio Project Fixer as follows:

- Ensure Visual Studio Project Fixer and its help manual is also closed
- Ensure any error dialogs from the previous installation are closed

You should now be ready to run the new version.

Software update schedule

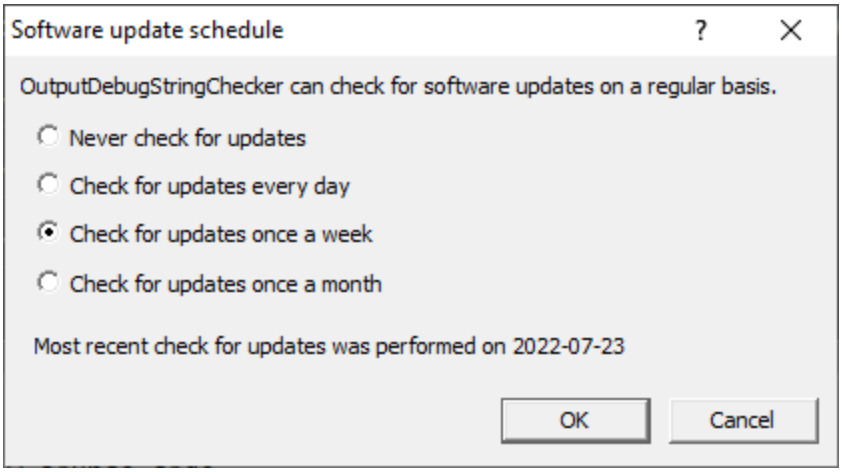
Visual Studio Project Fixer can automatically check to see if a new version of Visual Studio Project Fixer is available for downloading.

Software Updates menu **Configure software updates** shows the software update schedule dialog

The update options are:

- never check for updates
- check daily (the default)
- check weekly
- check monthly

The most recent check for updates is shown at the bottom.



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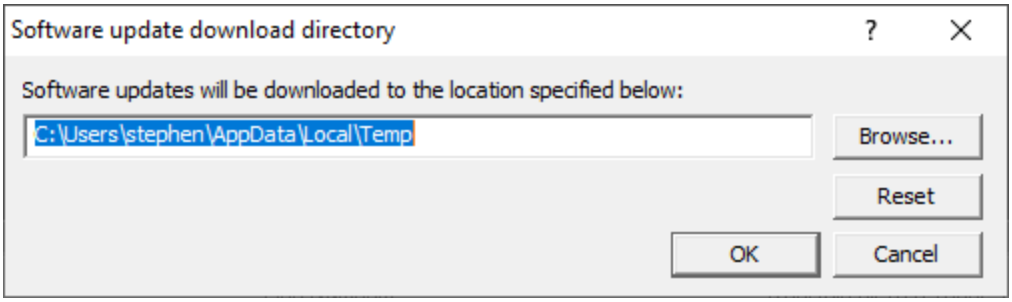
Software update directory

It's important to be able to specify where software updates are downloaded to because of potential security risks that may arise from allowing the `TMP` directory to be executable. For example, to counteract security threats it's possible that account ownership permissions or antivirus software blocks program execution directly from the `TMP` directory.

The `TMP` directory is the default location but if for whatever reason you're not comfortable with that, you can specify your preferred download directory. This allows you to set permissions for `TMP` to deny execute privileges if you wish.

Software Updates menu ➪ **Set software update directory** ➪ shows the Software update download directory dialog



An invalid directory will show the path in red and will not be accepted until a valid folder is entered.

Example reasons for invalid directories include:

- the directory doesn't exist
- the directory doesn't have write privilege (update can't be downloaded)
- the directory doesn't have execute privilege (downloaded update can't be run)

When modifying the download directory, you should ensure the directory will continue to be valid. Updates may no longer occur if the download location is later invalidated.

- **Reset** ➪ reverts the download location to the user's `TMP` directory

  The default location is `c:\users\[username]\AppData\Local\Temp`

3.4 Help

The Help menu controls displaying this help document and displaying information about Visual Studio Project Fixer.

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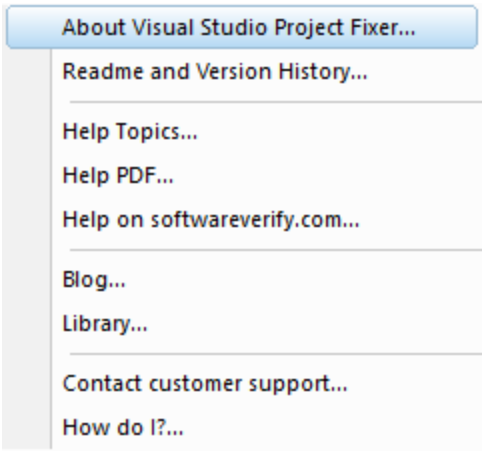

Help menu ⇨ **About Visual Studio Project Fixer...** ⇨ displays information about Visual Studio Project Fixer.

Help menu ⇨ **Readme and Version History...** ⇨ displays the readme and version history.

Help menu ⇨ **Help Topics...** ⇨ displays this help file.

Help menu ⇨ **Help PDF...** ⇨ displays this help file in PDF format.

Help menu ⇨ **Help on softwareverify.com...** ⇨ display the Software Verify documentation web page where you can view online documentation or download compiled HTML Help and PDF help documents.

Help menu ⇨ **Blog...** ⇨ display the Software Verify blog.

Help menu ⇨ **Library...** ⇨ display the Software Verify library - our best blog articles grouped by related topics.

Help menu ⇨ **Contact customer support...** ⇨ displays the options for contacting customer support.

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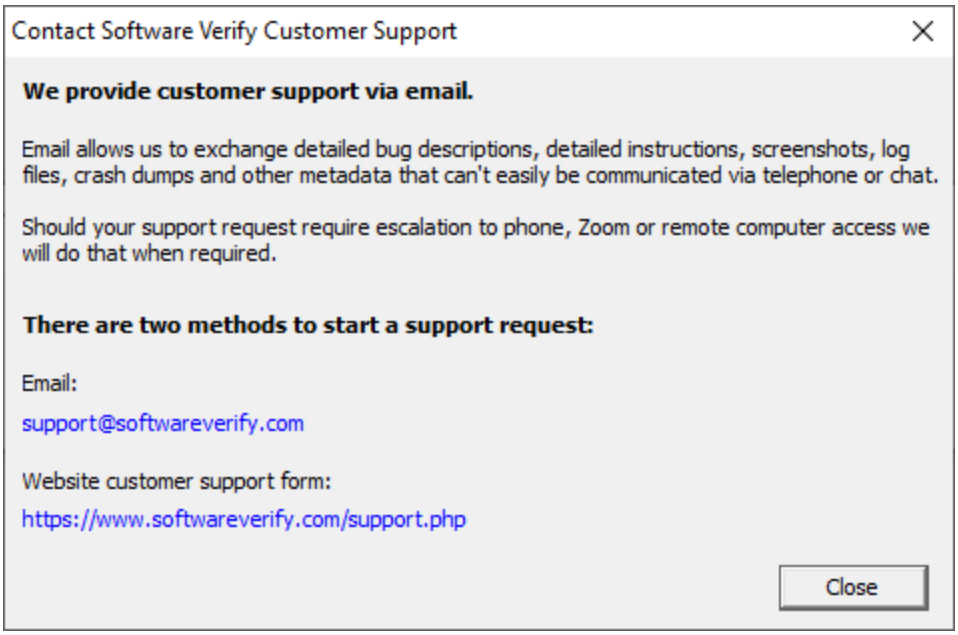
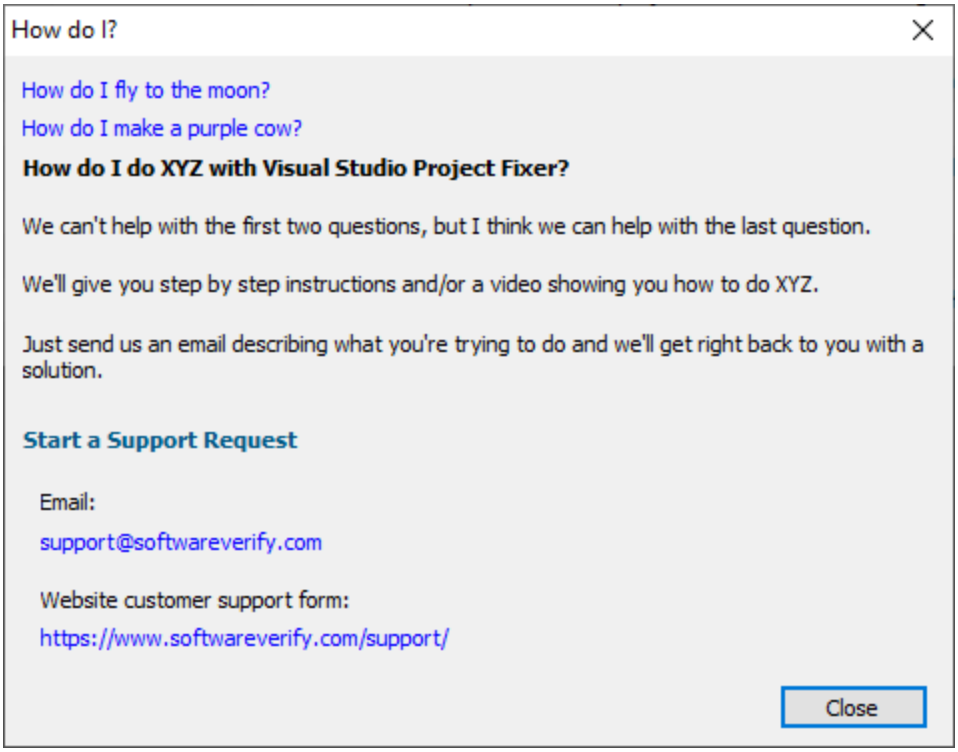


Click a link to contact customer support.

Help menu ➪ **How do I?...** ➪ displays the options for asking us how to do a particular task.



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Part

4 The graphical user interface

Visual Studio Project Fixer provides a graphical user interface to allow you to perform interactive tests of your Visual Studio project files.

You can load individual projects, load all projects in a solution, load all projects in a directory hierarchy, or load all projects referenced by all solutions in a directory hierarchy.

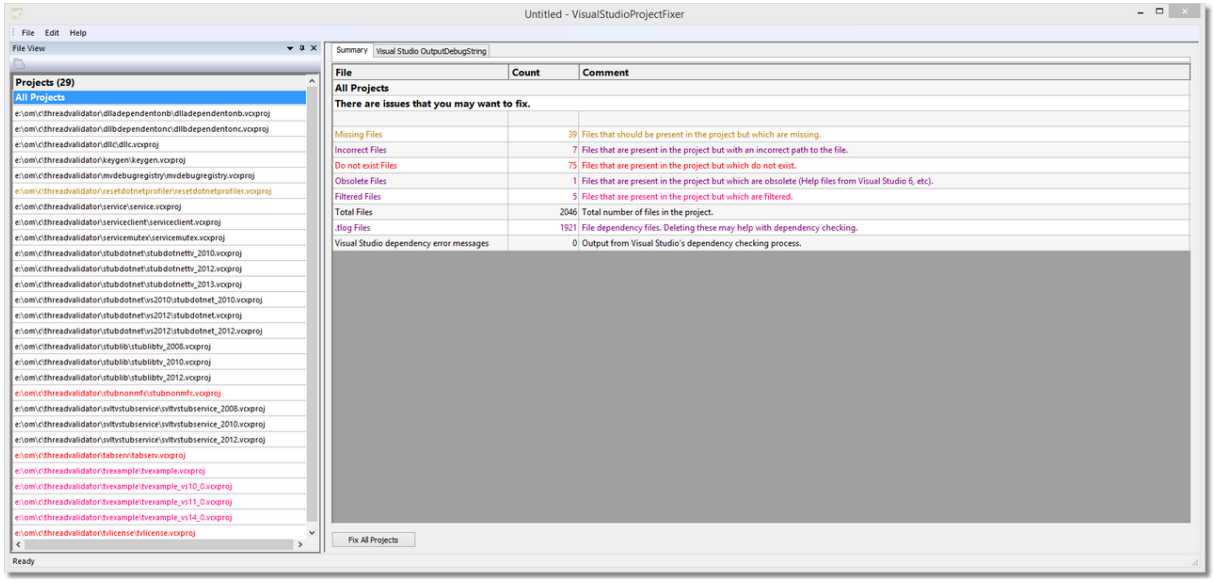
Visual Studio Projects are scanned for errors based on criteria specified in the settings.

The results of project scans can be inspected and either discarded or modified according to your wishes then saved.

4.1 The user interface

The Visual Studio Project Fixer user interface is split into two sections:

- Projects
- Information about the selected project



Projects

The projects windows lists every project that was read during the last scan for Visual Studio projects.

The first entry in the list is a summary entry for all projects. Selecting this entry displays overview statistics in the right hand panel.

Selecting any project displays statistics for that projects in the right hand panel.

Project error status is indicated by colour, with projects containing higher status error conditions displaying that colour.

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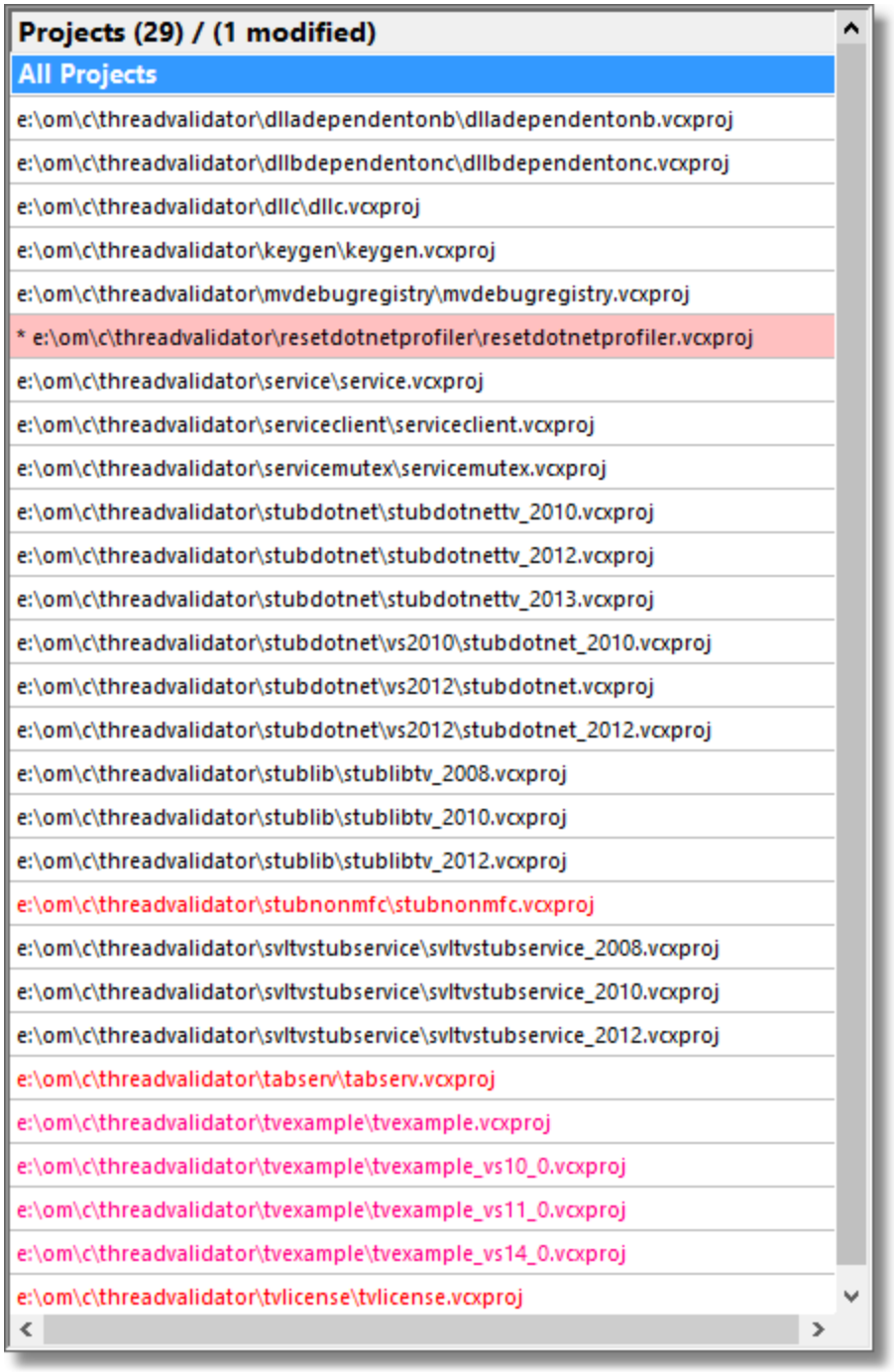
Projects that are modified are displayed with a * prefix and a red background.



The projects grid has a context menu to allow you easy access to projects (and the solution that contains them).

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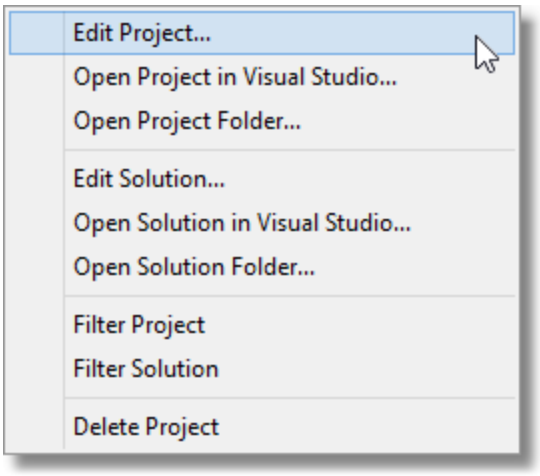

Edit Project...
The project file that owns this project configuration is opened in Notepad.

Open Project in Visual Studio...
The project file that owns this project configuration is opened in Visual Studio.

Open Project Folder...
The directory that contains the project file that owns this project configuration is opened in Windows Explorer.

Edit Solution...
The solution file that own this project is opened in Notepad.

Open Solution in Visual Studio...
The solution file that owns this project is opened in Visual Studio.

Open Solution Folder...
The directory that contains the solution file that owns this project is opened in Windows Explorer.

Filter Solution
The solution file name is added to the list of solutions that will be ignored the next time your scan your disk looking for Solutions.

Filter Project
The project file name is added to the list of projects that will be ignored the next time your scan your disk looking for Solutions and Projects.

Delete Project
The project is deleted from the list of projects. Unlike closing a project (File menu) there is no confirmation for deleting a modified project - it will be deleted without any changes written back to the project file.

Project Information

All Projects summary

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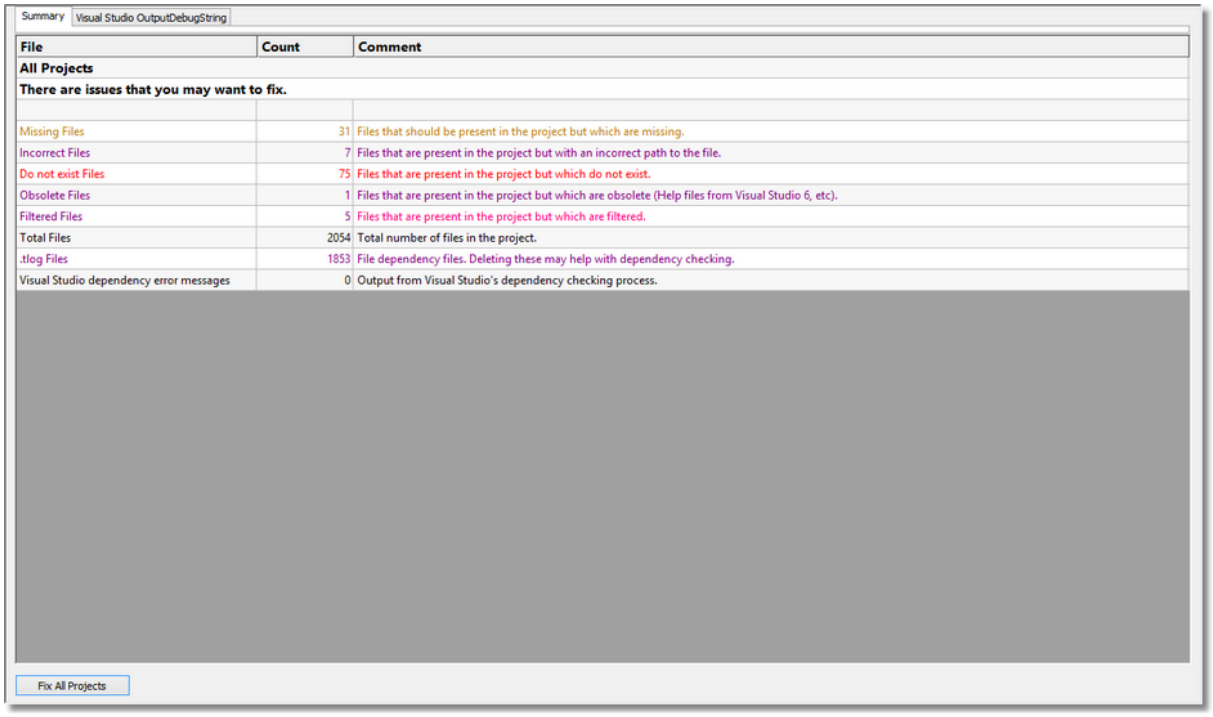
When the All Projects entry is selected in the projects list the summary displays information for all projects in the list. The **Fix All Projects** button is displayed.



Project summary

When a project is selected in the projects list the summary displays information for just that project. The number of tabs changes to include additional data tabs per project.

The Summary display changes to identify the project filename and display statistics relevant to the project. The **Fix Project** button is displayed.

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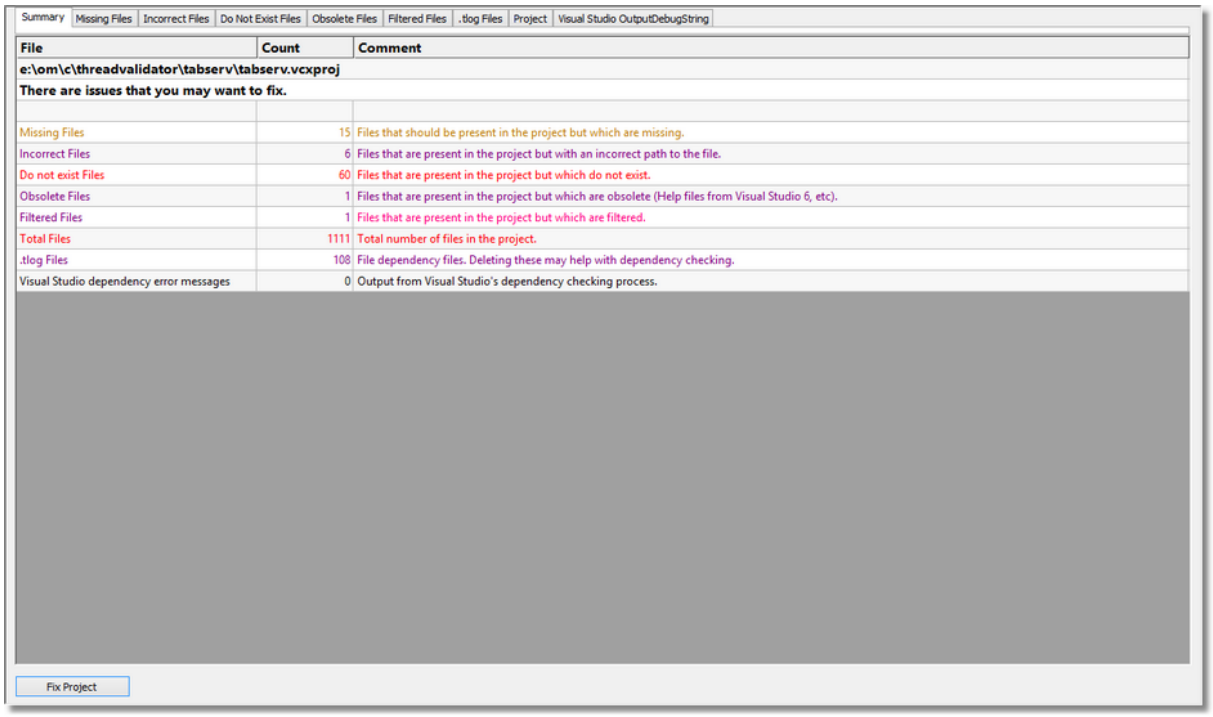

Project Missing Files
The Missing Files tab displays files that are missing from a project but which should be added to a project.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Add Filenames...** button allows you add the selected entries to the project.

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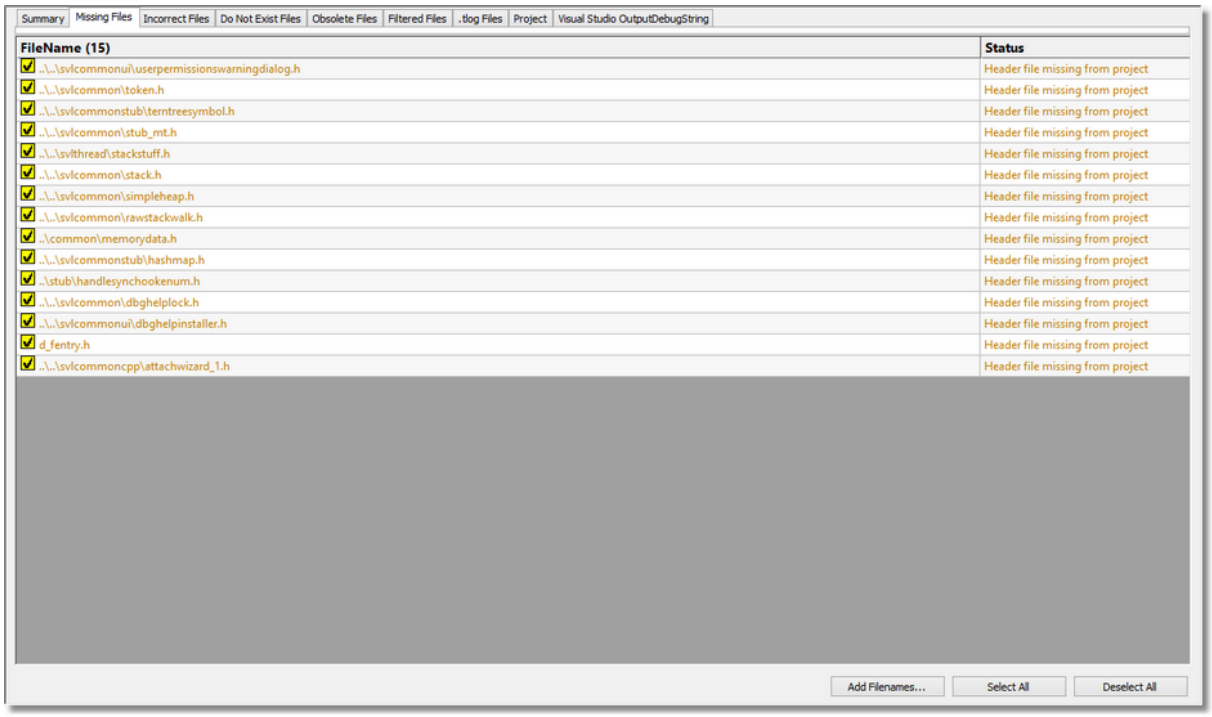

Project Incorrect Case Files
The Project Incorrect Case Files tab displays files that have a mismatch between the case of the name in the project file and the actual file on disk.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Fix Filenames...** button allows you fix the selected entries in the project.

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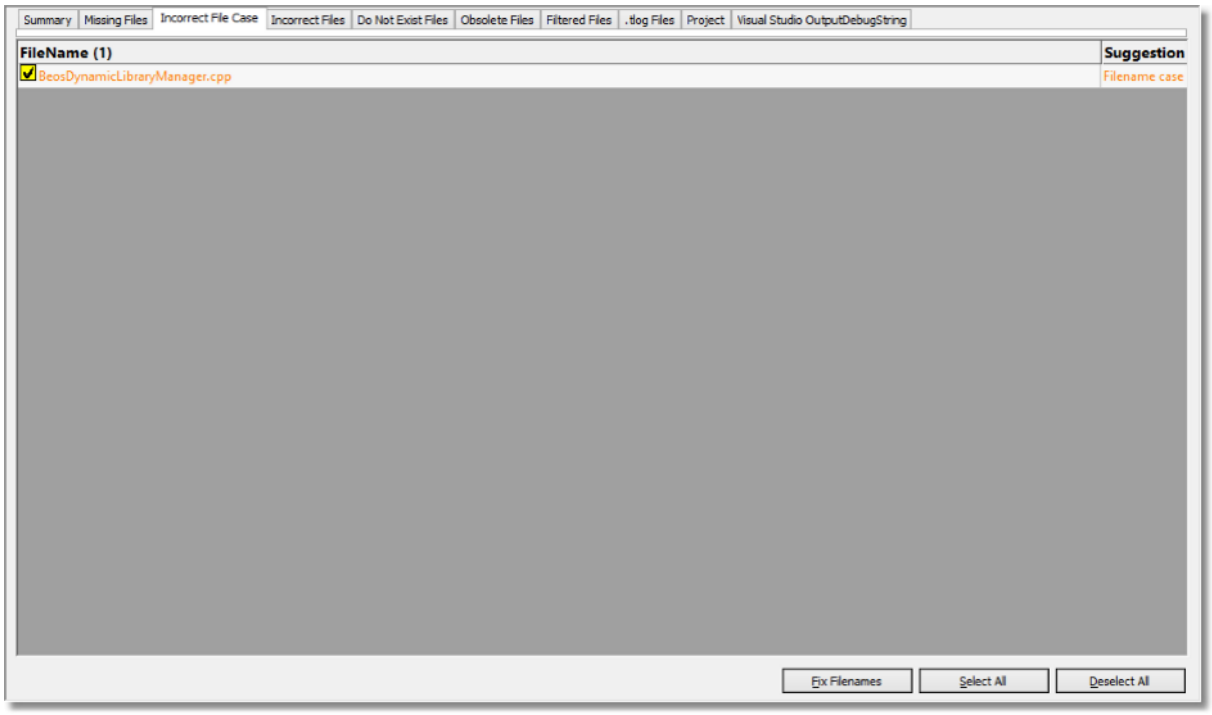
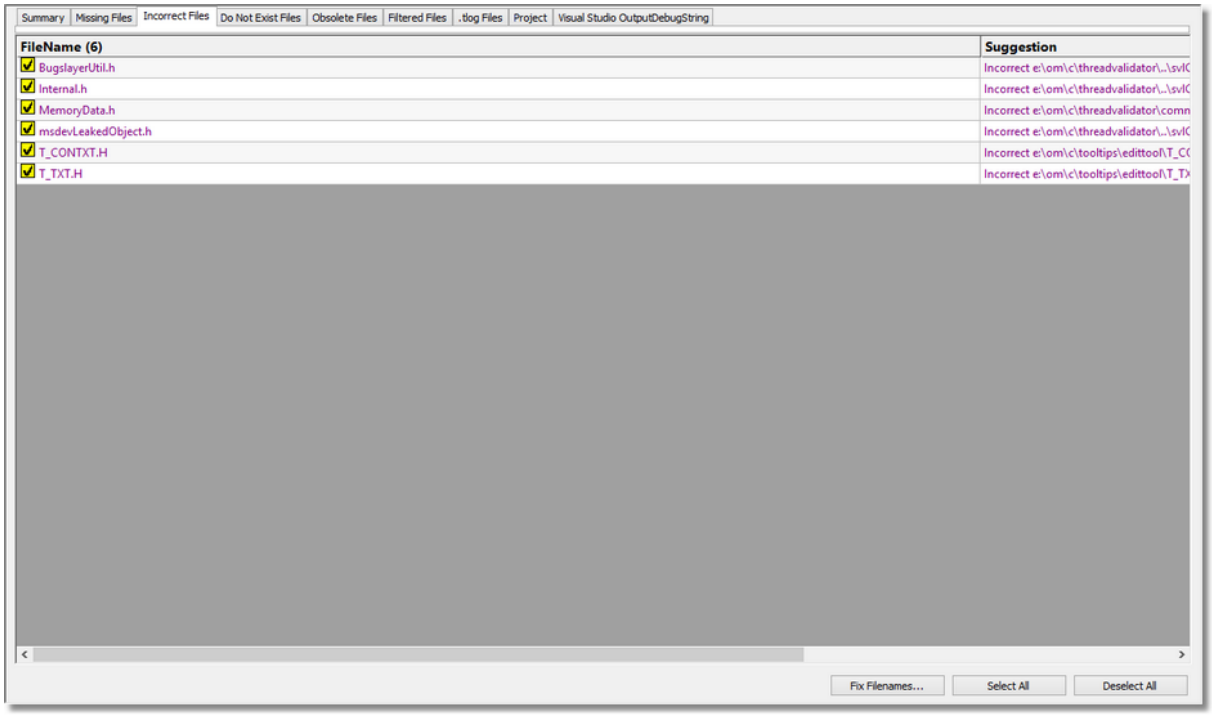


Project Incorrect Files
The Incorrect Files tab displays files that are incorrectly specified in a project.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Fix Filenames...** button allows you fix the selected entries in the project.



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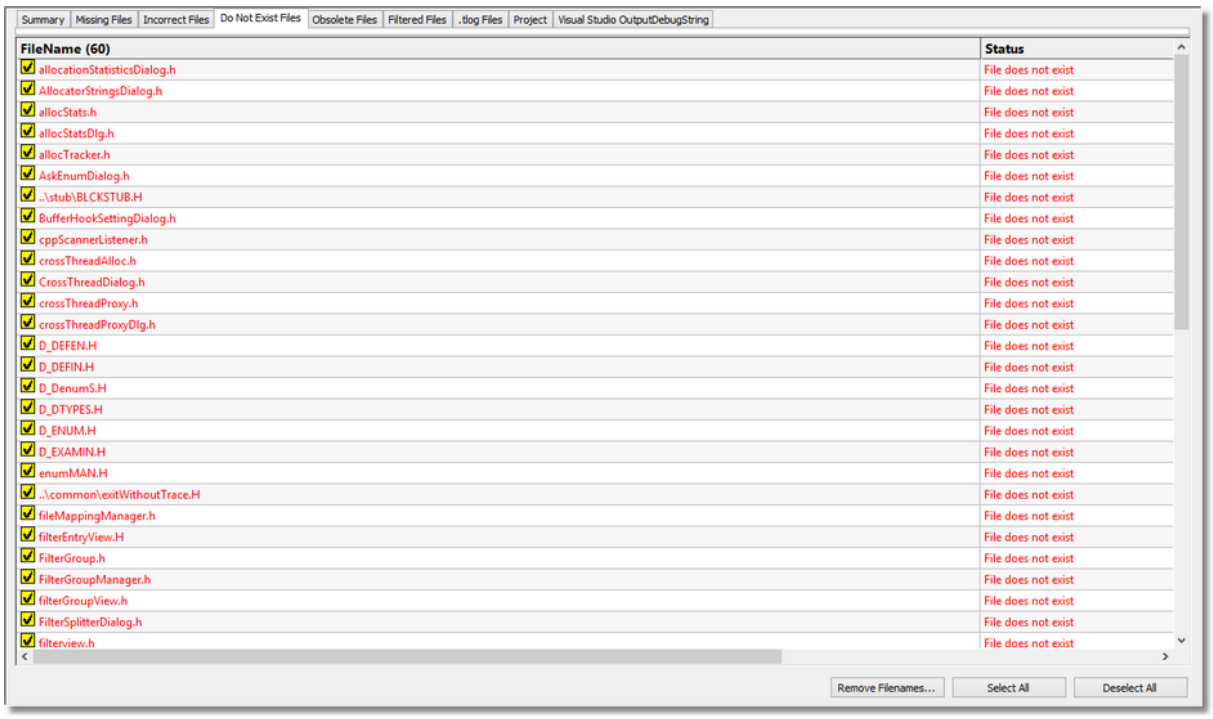
Project Do Not Exist Files

The Do Not Exist Files tab displays files that are specified in a project but do not exist on disk.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Remove Filenames...** button allows you to remove the selected entries from the project.



Project Obsolete Files

The Obsolete Files tab displays files that are incorrectly specified in a project.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Remove Filenames...** button allows you to remove the selected entries from the project.

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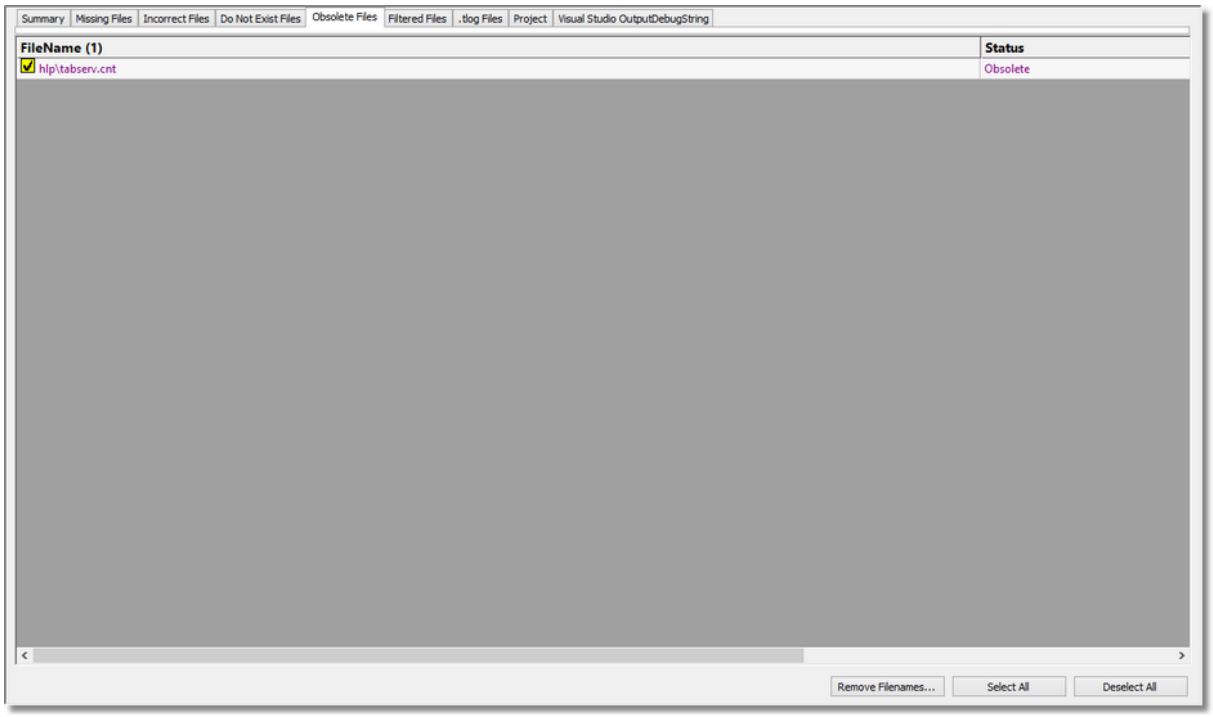
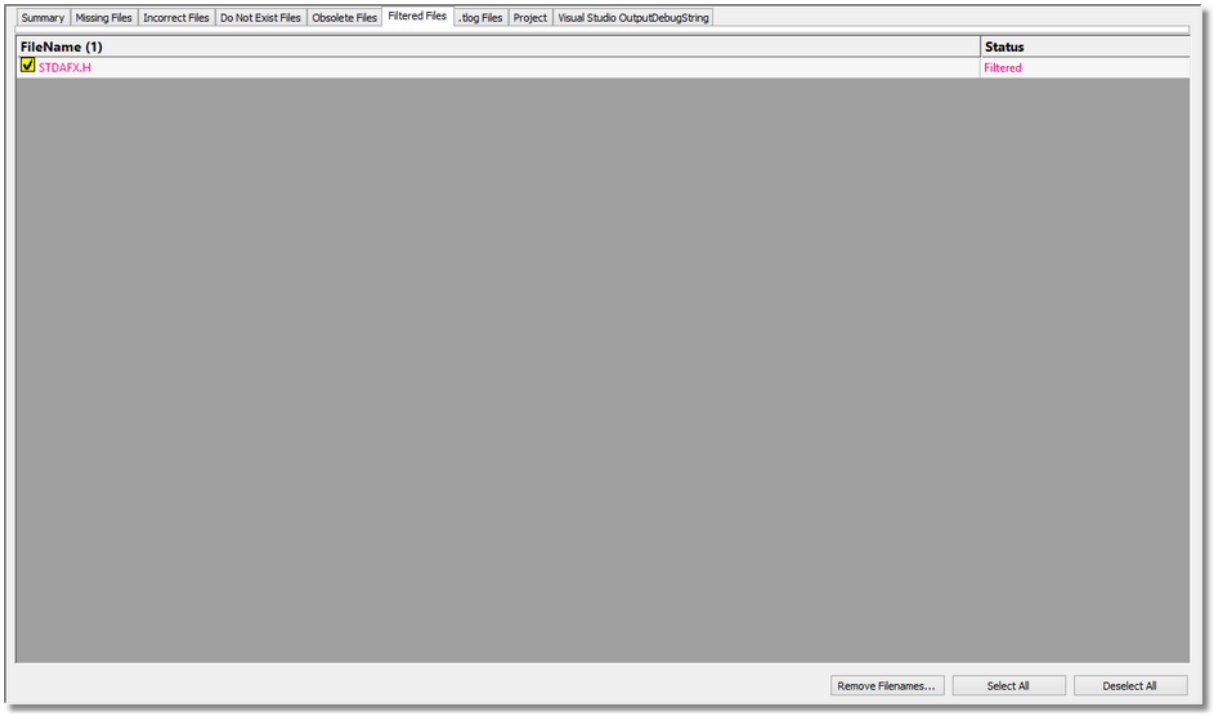


Project Filtered Files
The Filtered Files tab displays files that are ignored because of the filter settings.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Remove Filenames...** button allows you to remove the selected entries from the project.



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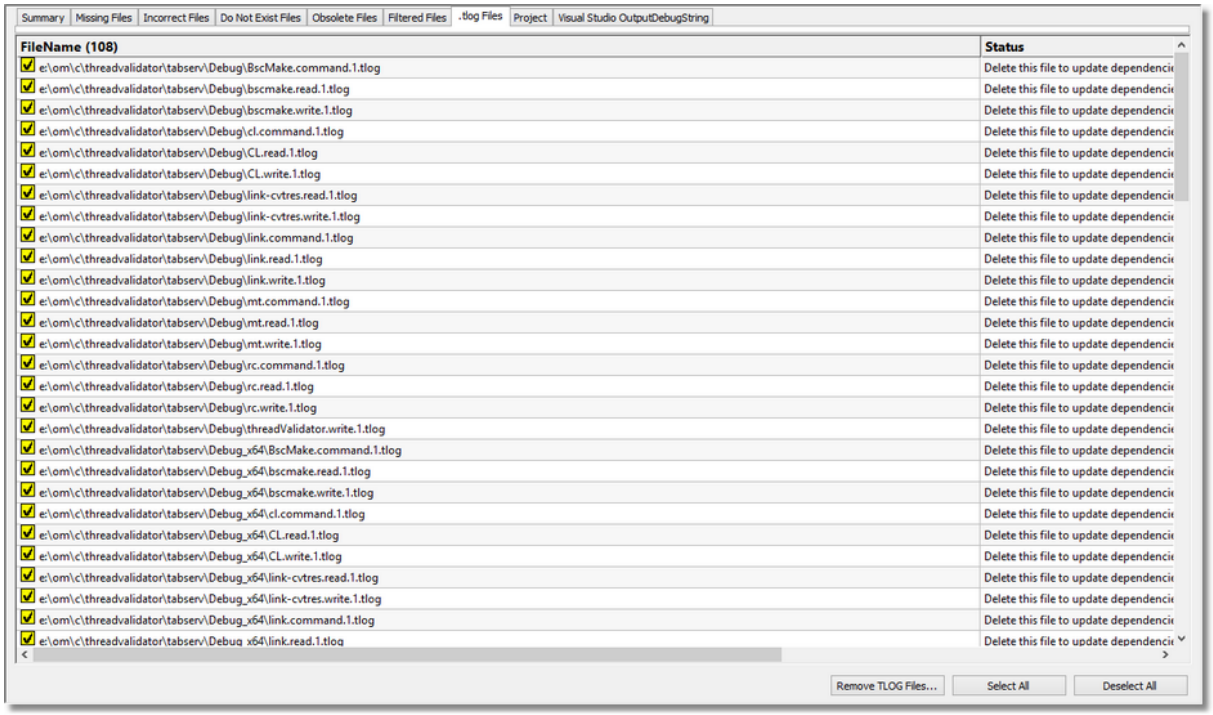
Project .tlog Files

The .tlog Files tab displays .tlog dependencies files that are in the directory hierarchy associated with this Visual Studio project.

By default all entries are selected. The **Select All** and **Deselect All** buttons all you to make global changes to the selection status. You can change the status of each entry by clicking the check mark box next to entry.
The **Remove Filenames...** button allows you to delete these files from disk.



Project File

The Project tab allows you to inspect the project file, plus any changes that can be made or have been made to the project. Any lines which can be changed or have been changed are identified in the status column. These lines are also colour coded.

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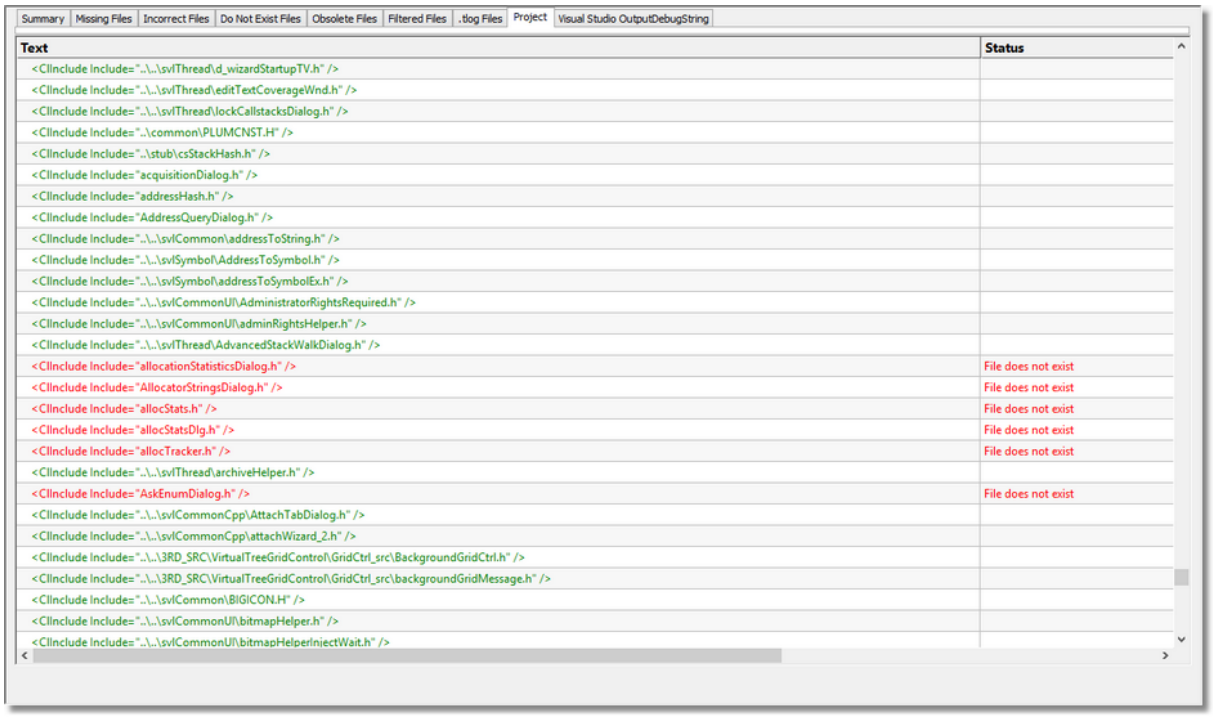

Visual Studio OutputDebugString

The Visual Studio OutputDebugString tab displays debugging data that is output by Visual Studio.

Because Visual Studio outputs a lot of information via OutputDebugString it can be quite hard to identify information related to build status. The information that Visual Studio Project Fixer displays is only related to build status. All other information is not displayed.

The debugging output from Visual Studio needs to be enabled before you will see anything on this tab.

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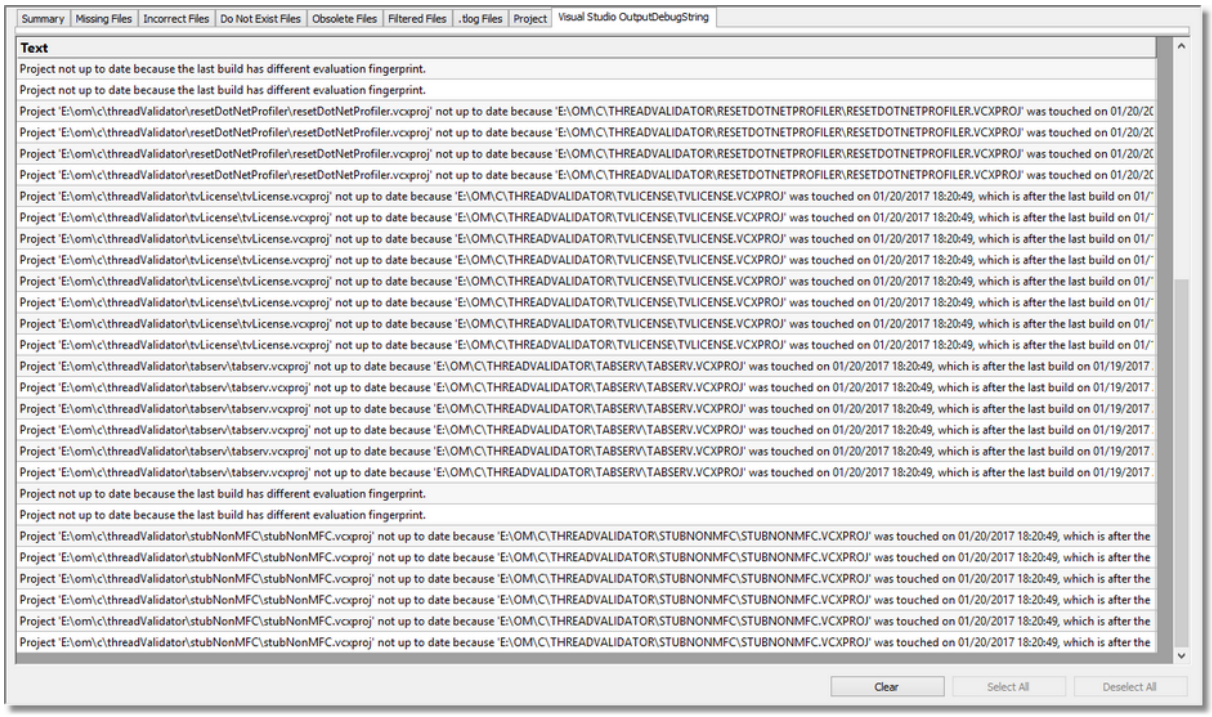

4.2 How to use Visual Studio Project Fixer

The way to use Visual Studio Project Fixer is to choose a project or solution that you wish to check for problems.

Solutions are parsed to identify the projects within them.

You can choose multiple projects and multiple solutions. Or you can scan disk hierarchies for projects and solutions.

Once you have chosen the projects to examine, you need to fix any problems you find using automatic fixing, semi automatic fixing or manual fixing.

4.2.1 Choosing the projects to fix

Projects can be specified individually or loaded from solution files. You can load individual projects, individual solutions or scan directory hierarchies for projects and solutions.

Load one project

Choose the **Open Visual Studio Project...** option on the **File** menu.

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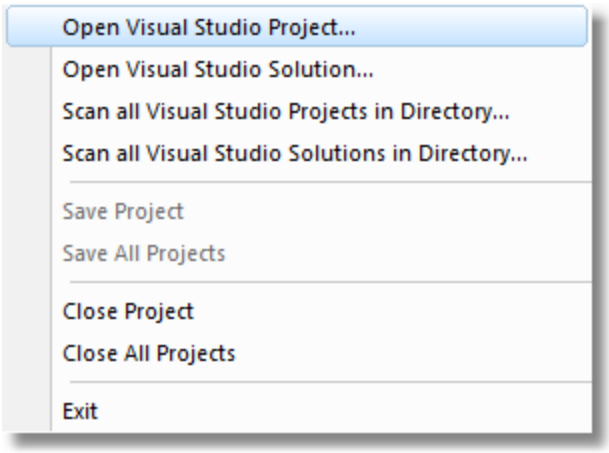
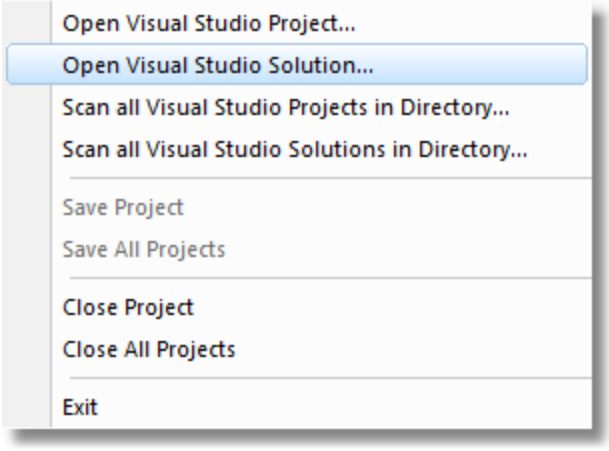


Select a project file using the Microsoft file browser.

The project will be loaded even if the project matches an entry in the project filters list.

Load one solution

Choose the **Open Visual Studio Solution...** option on the **File** menu.



Select a solution file using the Microsoft file browser.

The solution will be loaded even if the solution matches an entry in the solution filters list. Any projects in the solution will be filtered by entries in the project filters list.

Load many projects

Choose scan all **Visual Studio Projects in Directory...** option on the **File** menu.

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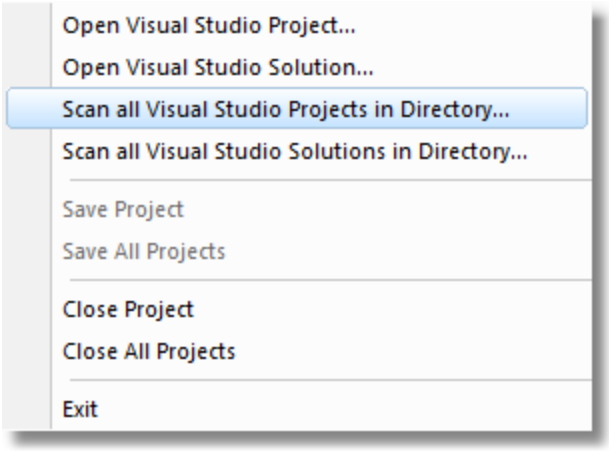
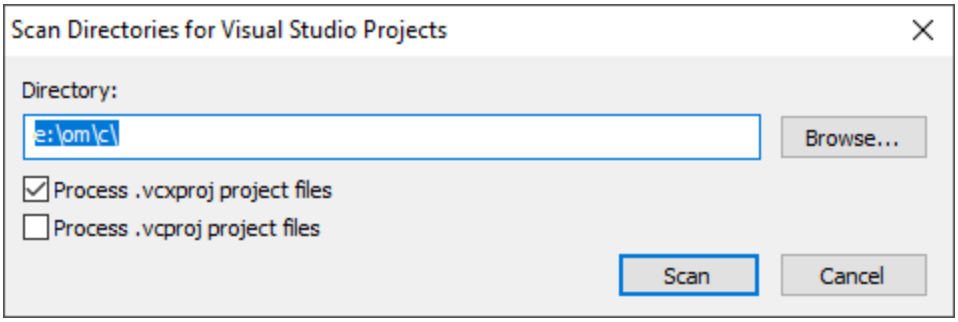


A project scan dialog is shown that allows you to choose which directory hierarchy to search and which project types to process.

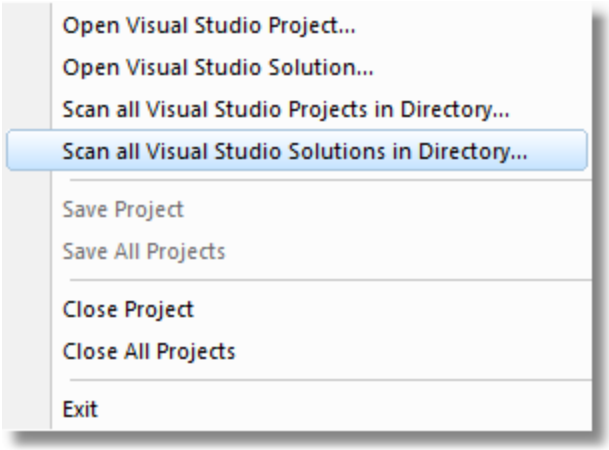


Select a directory and project types then click **Scan**.

Any projects found will be filtered by entries in the project filters list.

Load many solutions

Choose scan all **Visual Studio Solutions in Directory...** option on the **File** menu.



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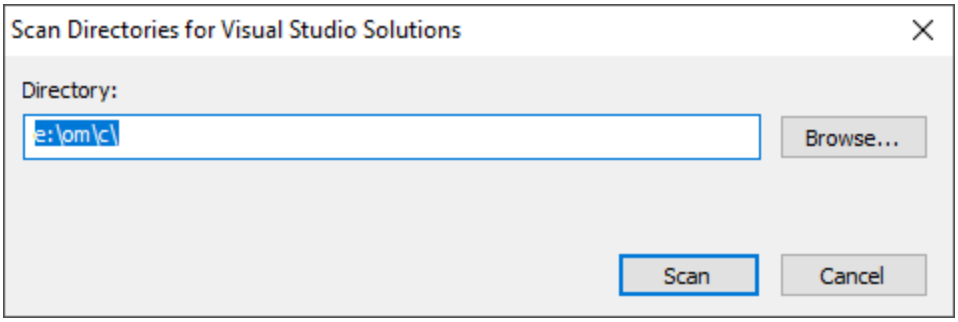
A solution scan dialog is shown that allows you to choose which directory hierarchy to search.



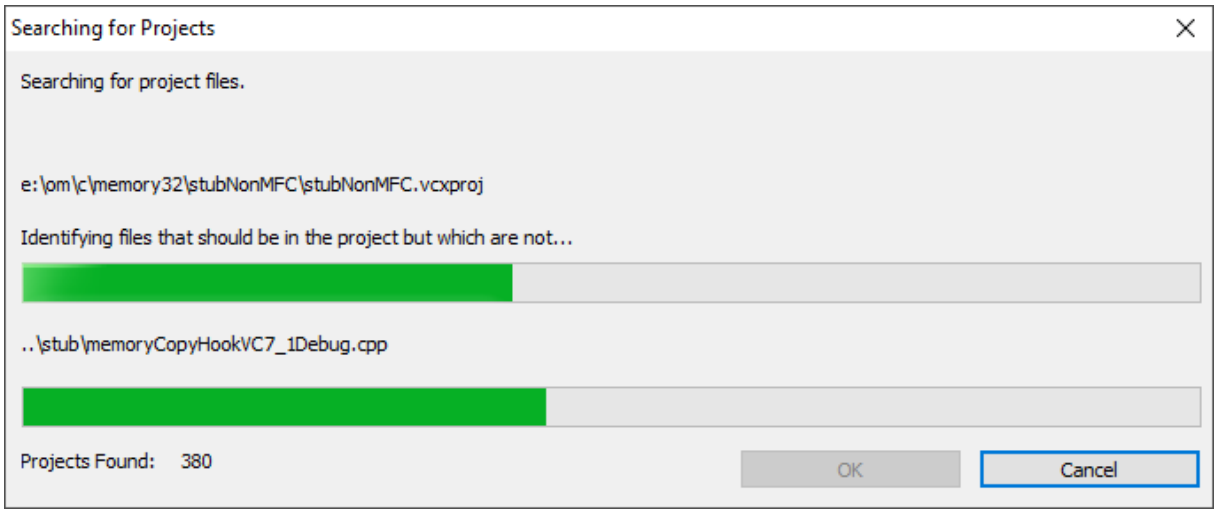
Select a directory then click **Scan**.

Any solutions found will be filtered by entries in the solution filters list.

Any projects in each solution will be filtered by entries in the project filters list.

Searching for Projects

One you have selected your project, solution or chosen a directory to start searching a scan progress dialog is displayed. This will display the name of the solution (if appropriate), the name of the current project being read, which stage the project analysis is at and the name of the file currently being analysed inside the project.



Once the scan is complete the OK button will be enabled.

If you accept the results by clicking OK, the scanned project results will be shown on the main display.

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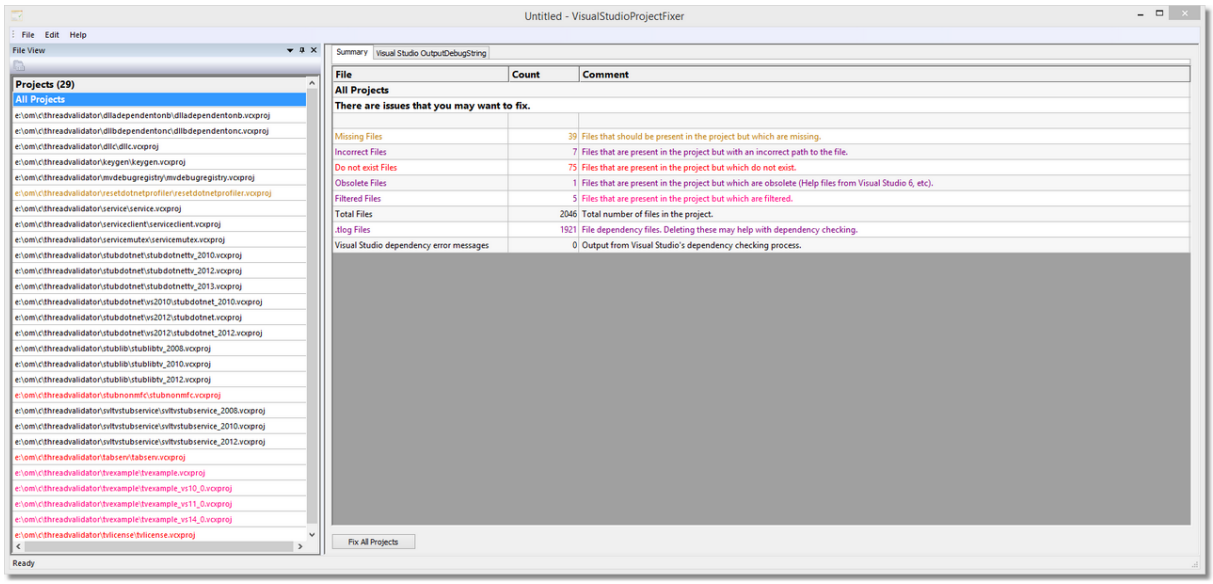


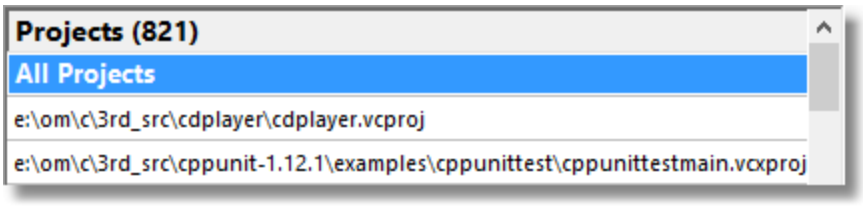
4.2.2 Fixing Projects

You can fix projects automatically, semi-automatically and manually. We're going to describe these topics here.

Automatic Fixing

If you're happy for Visual Studio Project Fixer to fix all errors found in all your project files just click **Fix All Projects** on the summary tab.

This option is only displayed if the **All Projects** entry on the project list is selected.



The Fix Project dialog will be displayed to confirm your choices.

Remember that project backups are created by default - you can always go back to the original backup if things go wrong (not that we expect them to!).

Semi Automatic Fixing

If you want to fix all errors in just one project, select that project in the project list, then click **Fix Project** on the summary tab.

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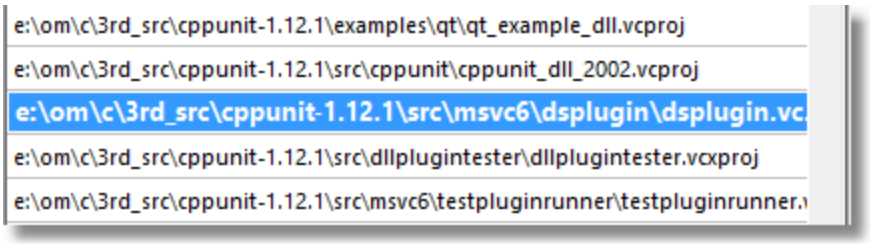


The Fix Project dialog will be displayed to confirm your choices.

Remember that project backups are created by default - you can always go back to the original backup if things go wrong (not that we expect them to!).

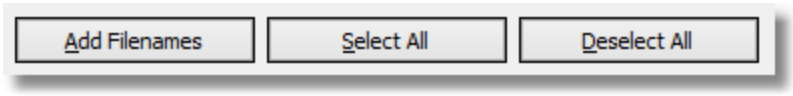
Manual Fixing

If you want to inspect errors for each project and then choose what to do then you need to take a different approach.

Select the project you wish to inspect from the project list.

For each of the tabs Missing Files, Incorrect Files, Do not Exist Files, Obsolete Files, Filtered Files, .tlog files you can select and deselect entries that will be affected by any modifications.

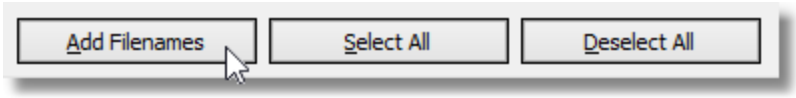
Each tab has an option that is appropriate to that tab (Add filenames, Remove filenames, Delete files, etc).



Missing Files
These are files that should be in the project but which are not.

For example you added a source file **ImportantCode.cpp** but forgot to add the corresponding header file **ImportantCode.h**.

Click **Add Filenames...** to add these files to the project.



Incorrect Case Files
These are files that are in the project, but the case of the filename in the project doesn't match the case of the file on disk.

For example a file **..\..\svlCommon\UIWORKPackage.h** is listed, but the file name really is **..\..\svlCommon\uiWorkPackage.h**

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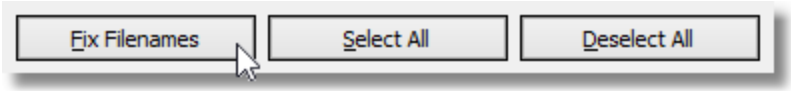
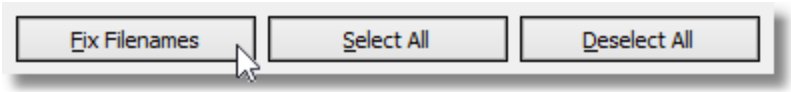
Click **Fix Filenames...** to fix these files in the project.



Incorrect Files
These are files that are in the project, but they are specified incorrectly and identify a file that doesn't exist.

For example a file **uiWorkPackageEx.h** is listed, but the file has been moved since it's creation and the correct path should be **..\..\svlCommon\uiWorkPackage.h**

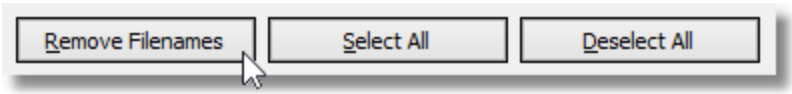
Click **Fix Filenames...** to fix these files in the project.



Files that don't exist
These are files that don't exist.

For example a file **..\..\testCode\usefulConstants.h**. This file once existed but has been deleted (or moved).

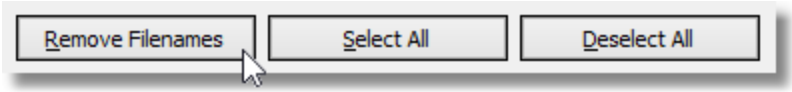
Click **Remove Filenames...** to remove these files from the project.



Obsolete files
These are files from a previous version of Visual Studio.

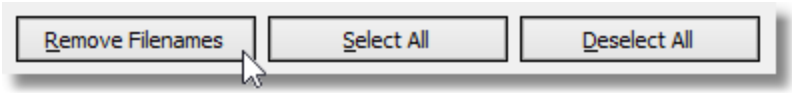
For example WinHelp files from Visual Studio 6.

Click **Remove Filenames...** to remove these files from the project.



Filtered files
These are files that match the File Filters. You can modify the File Filters using the settings dialog.

Click **Remove Filenames...** to remove these files from the project.



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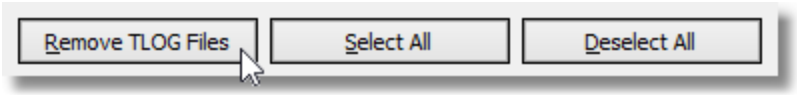
.tlog files
These are Visual Studio dependency information files. These can get out of date and cause problems. Often deleting these files will fix build dependency errors. These files will be automatically rebuilt by Visual Studio.

Click **Remove TLOG Files...** to delete these files from disk.



4.3 Enabling Visual Studio Debugging Output

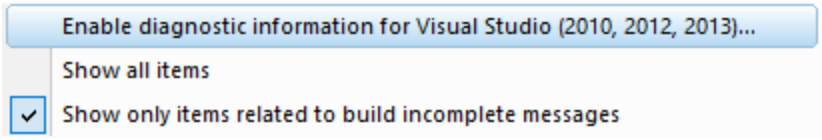
Visual Studio 2002, 2003, 2005, 2008

For versions of Visual Studio prior to Visual Studio 2010 it is not possible to enable Visual Studio debugging output.

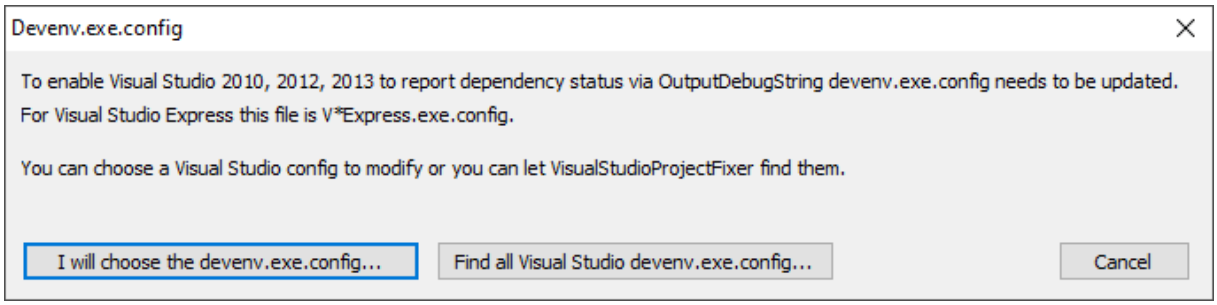
Visual Studio 2010, 2012, 2013

For Visual Studio 2010, 2012 and 2013 a setting in the Devenv.exe.config file for each version of Visual Studio needs to be modified.

To enable Visual Studio debugging output choose the **Enable diagnostic information...** entry on the **Edit > Visual Studio diagnostic information** menu.



The Devenv.exe.config dialog is displayed.



Manual
To manually select a single Devenv.exe.config file to modify click **I will choose the devenv.exe.config...** button.

The Microsoft file browser will open to allow you to choose which Devenv.exe.config to modify.

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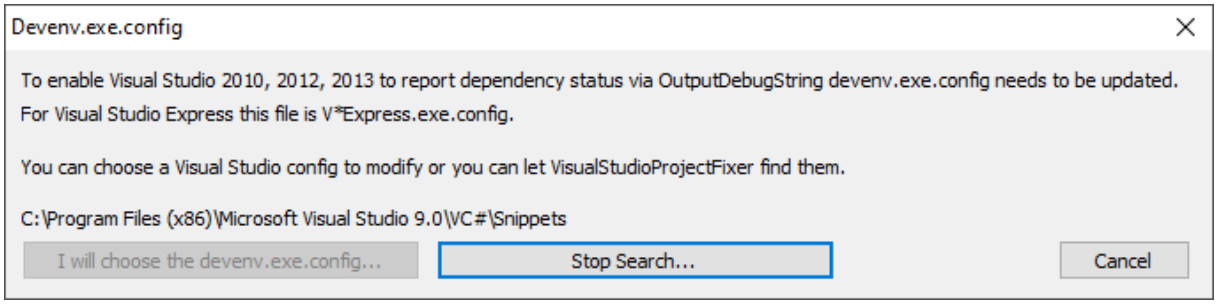
A typical location for a Devenv.exe.config file is C:\Program Files (x86)\Microsoft Visual Studio 10.0\Common7\IDE\Devenv.exe.config

Automatic
If you want Visual Studio Project Fixer to find all Devenv.exe.config files (one per Visual Studio installation) choose the **Find all Visual Studio devenv.exe.config** button.

Visual Studio Project Fixer will search your program files directory for Visual Studio installs of Visual Studio 2010, 2012, 2013.

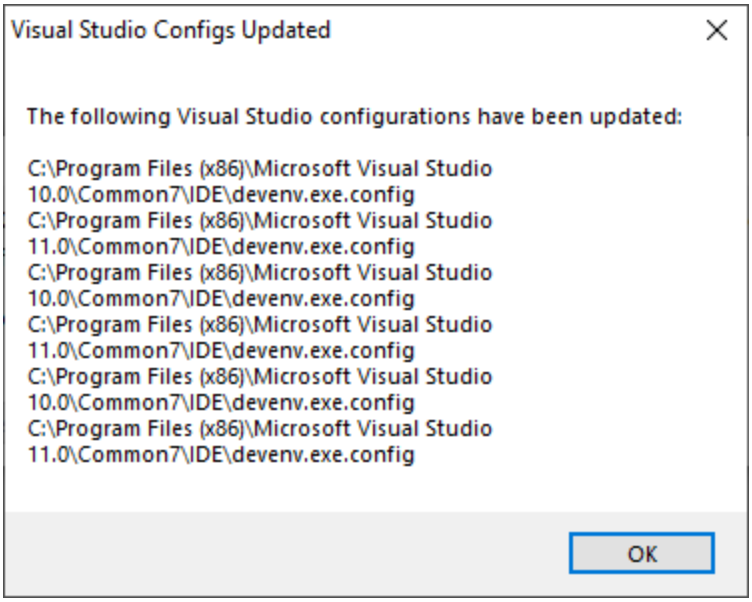


When all appropriate config files have been found a helper program will be launched to modify these config files.

This helper program requires administrator privileges - you will be asked to confirm that this program can run.

When the helper program has completed you will be shown a list of the config files that have been modified.

The helper program will not modify a config file that has already been modified



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Devenv.exe.config backups

Backups of modified config files are have a data tag extension.

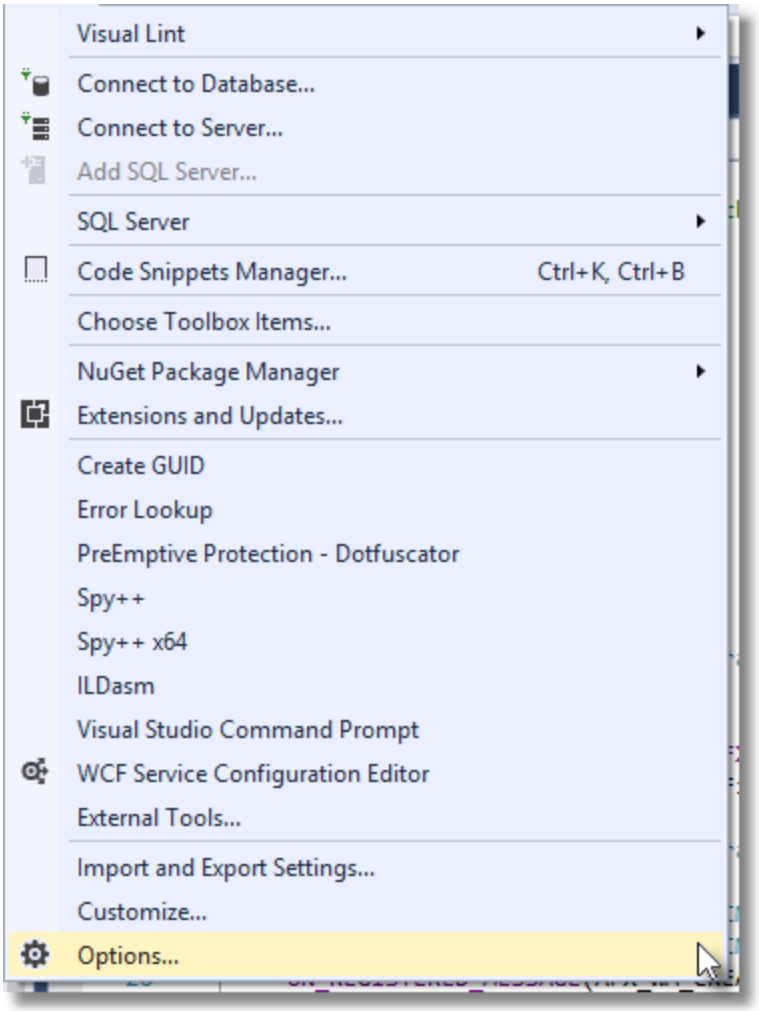
An example backup filename of Devenv.exe.config would be Devenv.exe.config-2017-01-19-14-12-54.

Visual Studio 2015, 2017

For versions of Visual Studio from 2015 onwards you don't need to do this, you can enable debugging output from the Visual Studio user interface.

To enable debugging output from the Visual Studio user interface do this.

Choose **Options...** from the **Tools** menu.



On the Options dialog, go to **Projects and Solutions**, choose **Build and Run**, then change the **MSBuild project build output verbosity** setting to **Diagnostic** then click OK.

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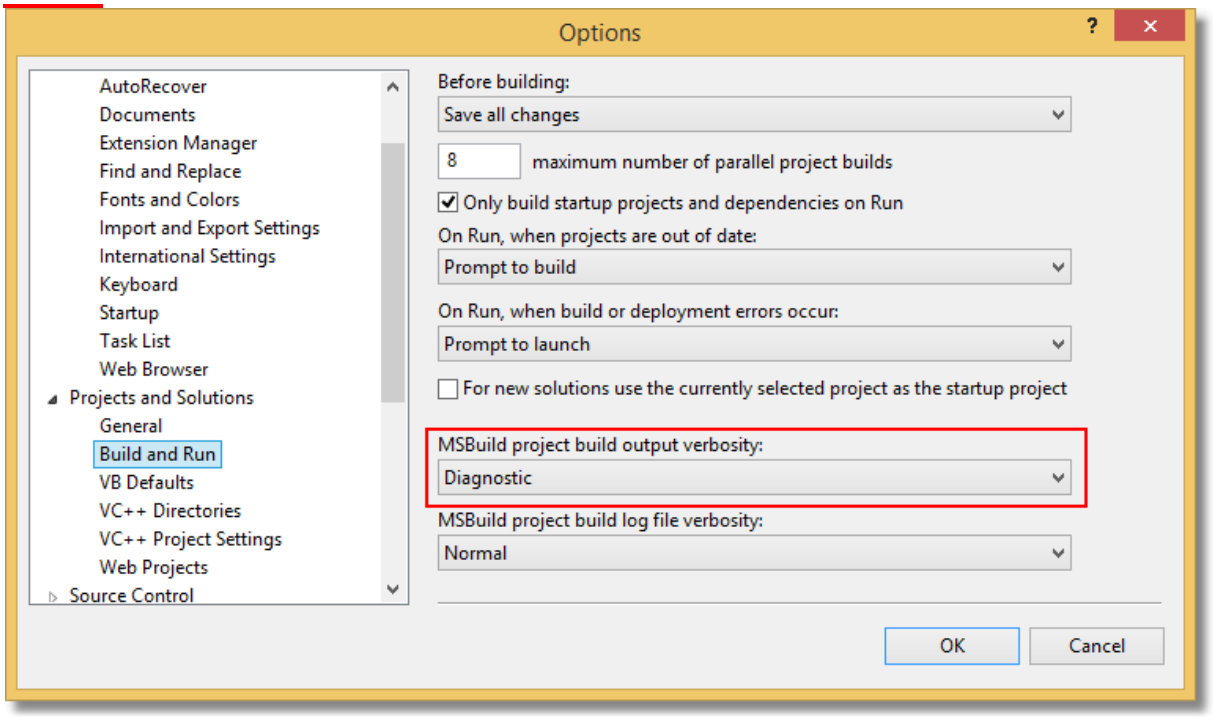
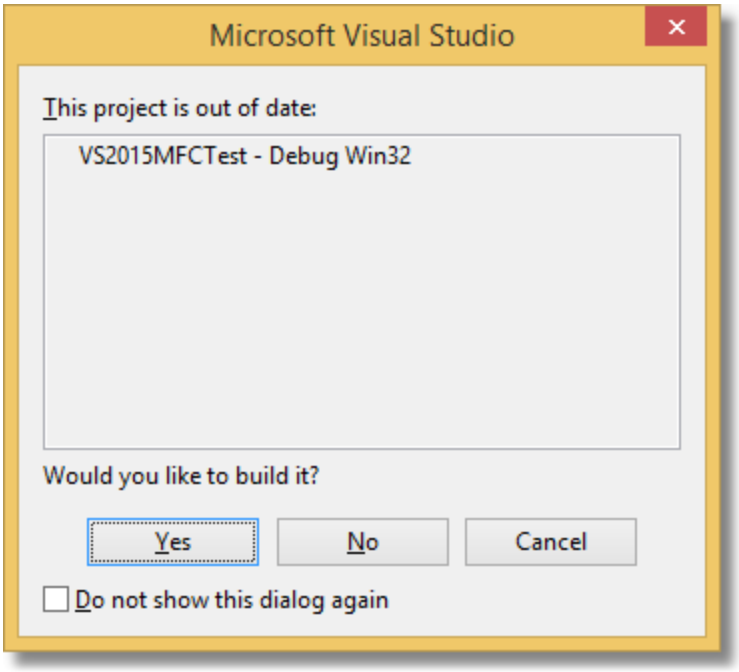


When you try to run the software but Visual Studio complains the build is out of date and nothing is shown - you still get the build out of date dialog:



However, if in answer to the question posed by the dialog, you choose **Yes**, Visual Studio will try to build the project. With the diagnostic messages turned on, a lot of data is output, some of it relating to the build. Here's a screenshot with the relevant information highlighted.

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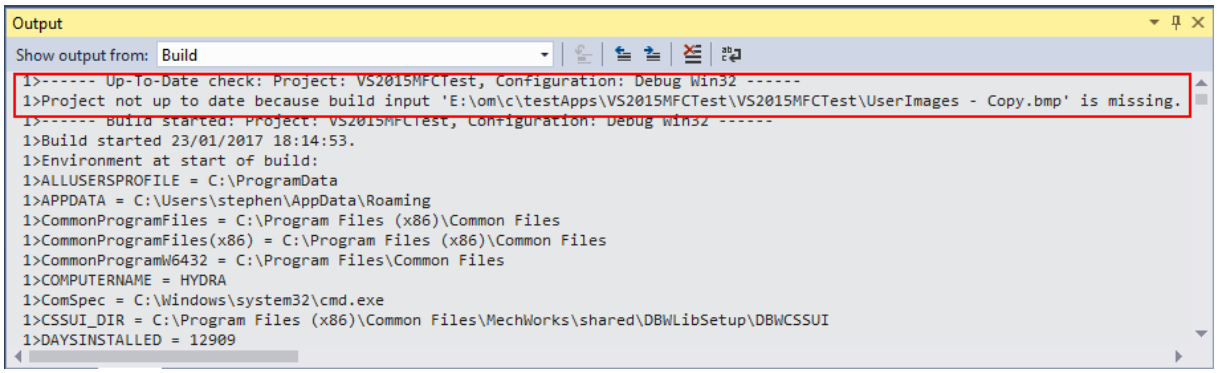
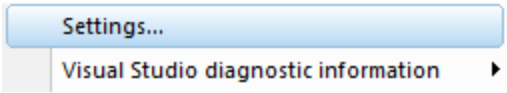


4.4 Modifying the settings

The Settings dialog allows you to control the behaviour of Visual Studio Project Fixer.

To edit the settings, choose **Settings...** on the **Edit** menu.



The settings dialog is displayed.

Reset to Defaults

If you need to reset the settings to defaults click the large **Reset** button at the bottom left of the dialog.

4.4.1 Search Directory

The Search Directory settings allow you to configure how Visual Studio Project Fixer identifies projects that will be considered for building.

Directory

The directory that was most recently scanned (and which will be the default for the next scan) is shown in the **Directory** field. You can type a new directory name or the Microsoft directory chooser by clicking the **Browse...** button.

Visual Studio 2017 - 2010

If you wish to identify project files for Visual Studio 2017 - 2010 select the **Process .vcxproj project files** check box.

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Visual Studio 2008 - 2002

If you wish to identify project files for Visual Studio 2008 - 2002 select the **Process .vcproj project files** check box.

Default settings

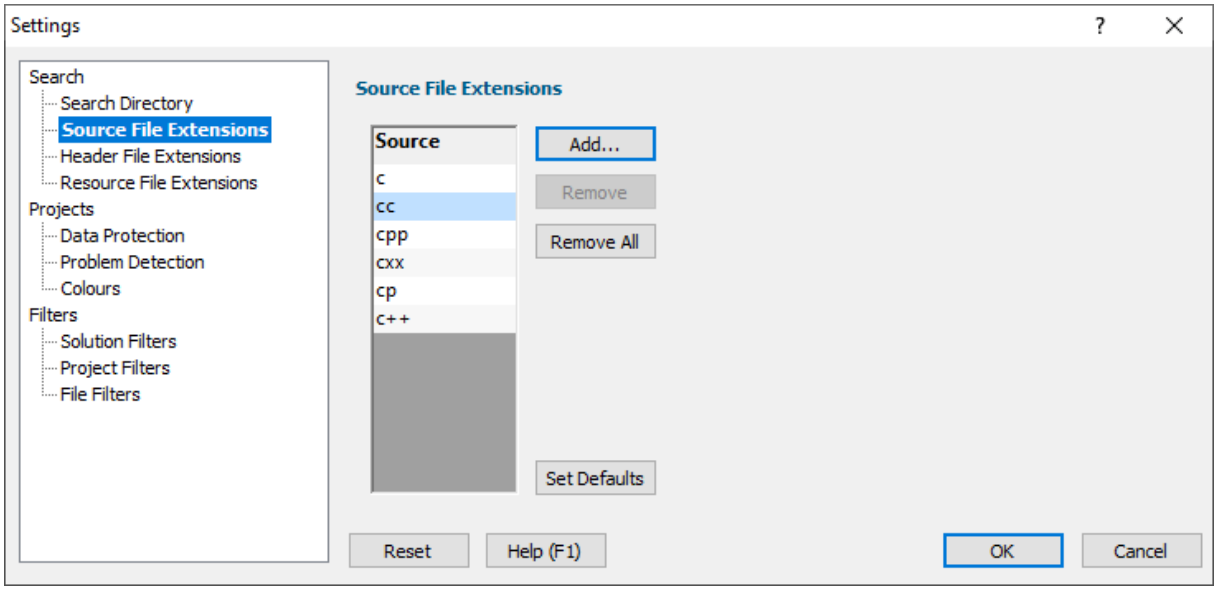
The default settings only consider projects with a **.vcxproj** extension. These are projects from Visual Studio 2010 onwards.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.2 Source File Extensions

The Source File Extensions settings allow you to configure how Visual Studio Project Fixer identifies source files in a project.



The recognized source file extensions are displayed in the list.

To remove an item, select it then click **Remove**.

To clear the list, click **Remove All**.

To add an item, click the **Add...** button which will display the File Extension dialog.

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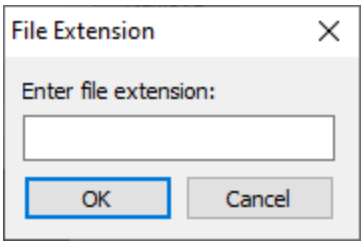


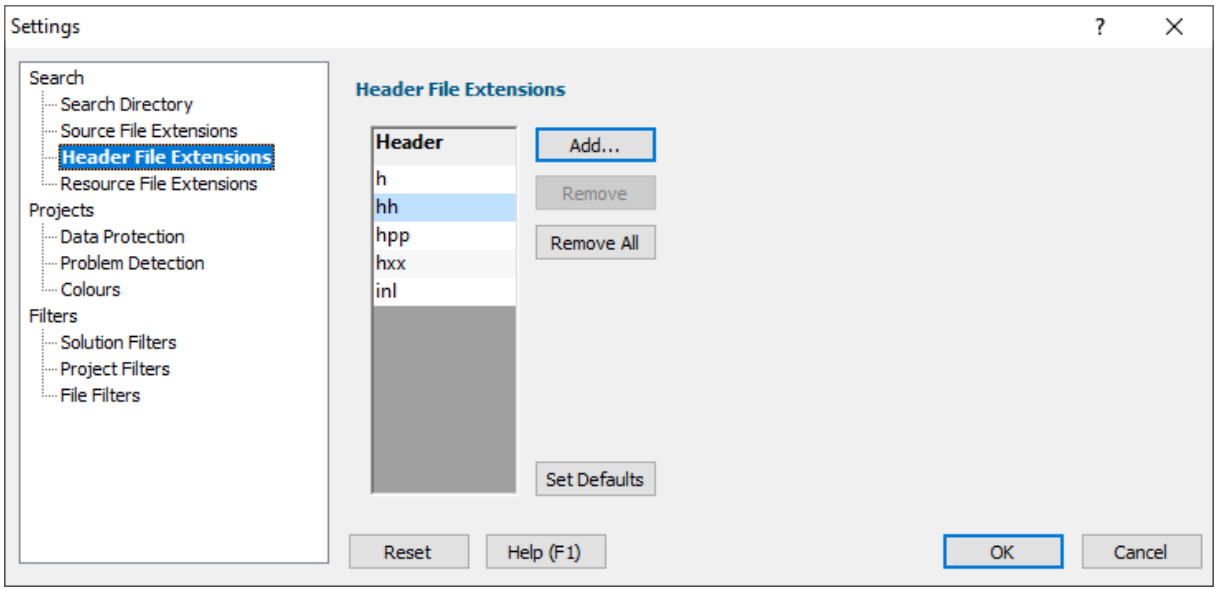
To reset back to the default source file extensions, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.3 Header File Extensions

The Header File Extensions settings allow you to configure how Visual Studio Project Fixer identifies header files in a project.



The recognized source file extensions are displayed in the list.

To remove an item, select it then click **Remove**.

To clear the list, click **Remove All**.

To add an item, click the **Add...** button which will display the File Extension dialog.

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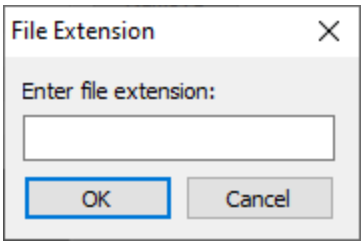


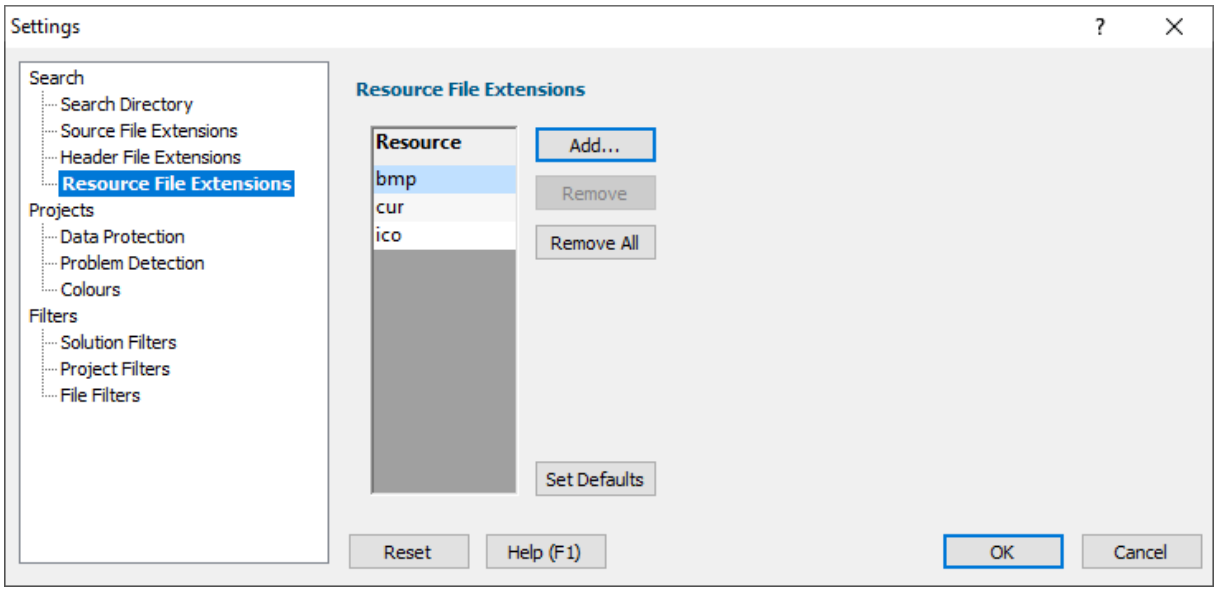
To reset back to the default header file extensions, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.4 Resource File Extensions

The Resource File Extensions settings allow you to configure how Visual Studio Project Fixer identifies resource files in a project.



The recognized resource file extensions are displayed in the list.

To remove an item, select it then click **Remove**.

To clear the list, click **Remove All**.

To add an item, click the **Add...** button which will display the File Extension dialog.

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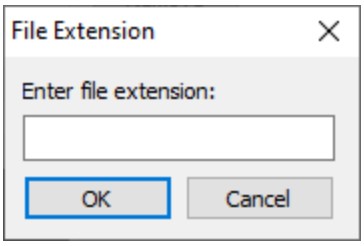


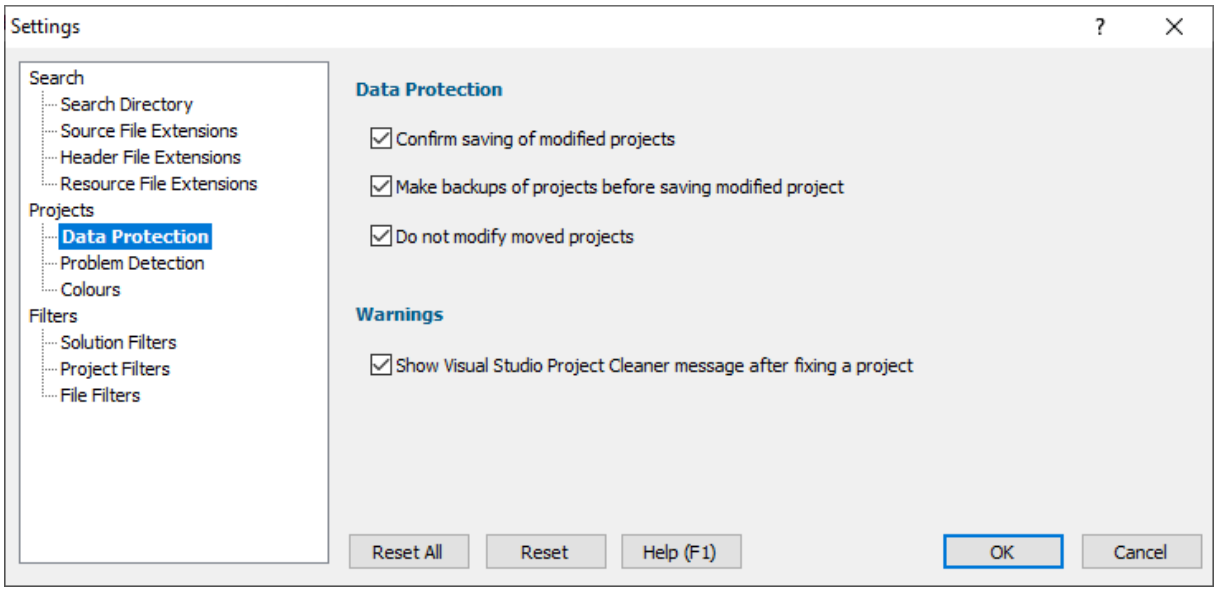
To reset back to the default resource file extensions, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.5 Data Protection

The Data Protection settings allow you to configure how Visual Studio Project Fixer protects existing projects and data in modified projects.



Save Modified Projects
Visual Studio Project Fixer will confirm the saving of any modified projects. If you wish to save projects without confirmation disable the **Confirm saving of modified projects** checkbox.

Project Backups
Visual Studio Project Fixer will make a backup of a modified project. If you wish not to create backup projects disable the **Make backups of projects before saving modified project** checkbox.

Project backups have the same name as the original project with an additional date tag.

For example tabserv.vcxproj would become tabserv.vcxproj-207-01-19-13-03-58

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Moved Projects
Visual Studio Project Fixer will not modify any projects that have been moved.

Visual Studio Project Fixer detects projects that have been moved by looking for source files that are listed in the project but which don't exist. We use this criteria because if source files don't exist the project can't compile, whereas header files and resource files that don't exist will not necessarily cause a project to fail to compile. Because it doesn't make sense to use Visual Studio Project Fixer on a project that can't compile we assume that the project is no longer in use and has been moved.

To allow Visual Studio Project Fixer to work with moved projects disable the **Do not modify moved projects** checkbox.

Visual Studio Project Cleaner
After fixing a project (or many projects) a message is displayed warning that some projects may need to be cleaned with Visual Studio Project Cleaner if they continue to display the "This project is out of date" warning.

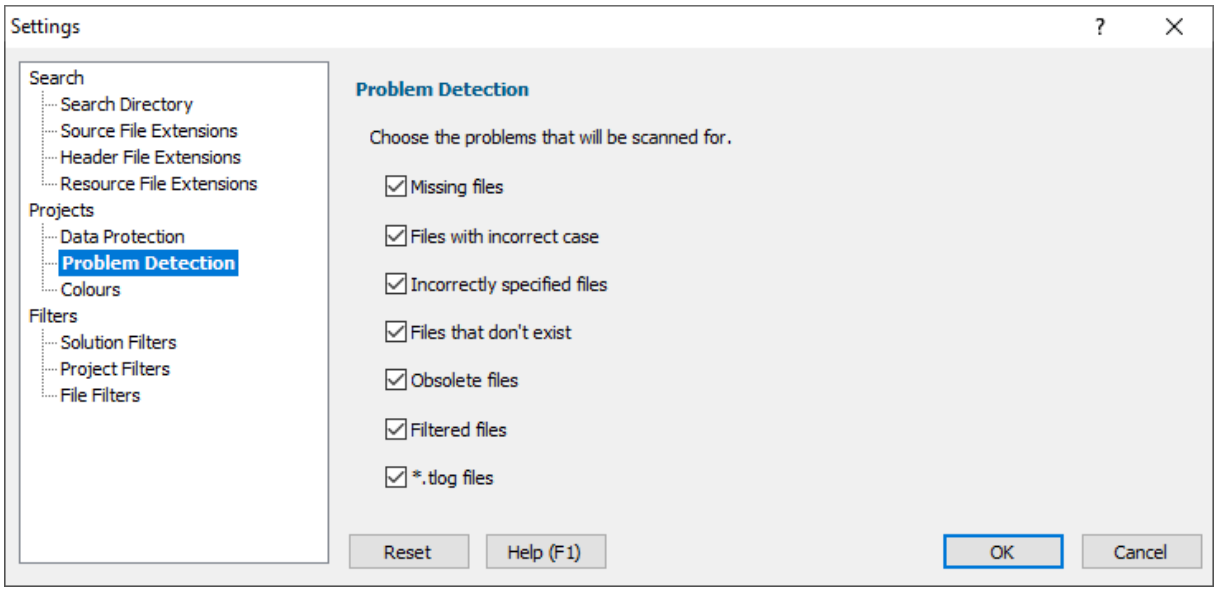
You can prevent this message from being displayed by disabling the **Show Visual Studio Project Cleaner message after fixing a project** checkbox.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.6 Problem Detection

The Problem Detection settings allow you to configure how Visual Studio Project Fixer identifies project problems that need fixing.



Problem Detection

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Visual Studio Project Fixer can detect a variety of different errors. By default detection of all error types is enabled.

- Missing Files
- Incorrect Files
- Files that don't exist
- Obsolete files
- Filtered files
- .tlog files

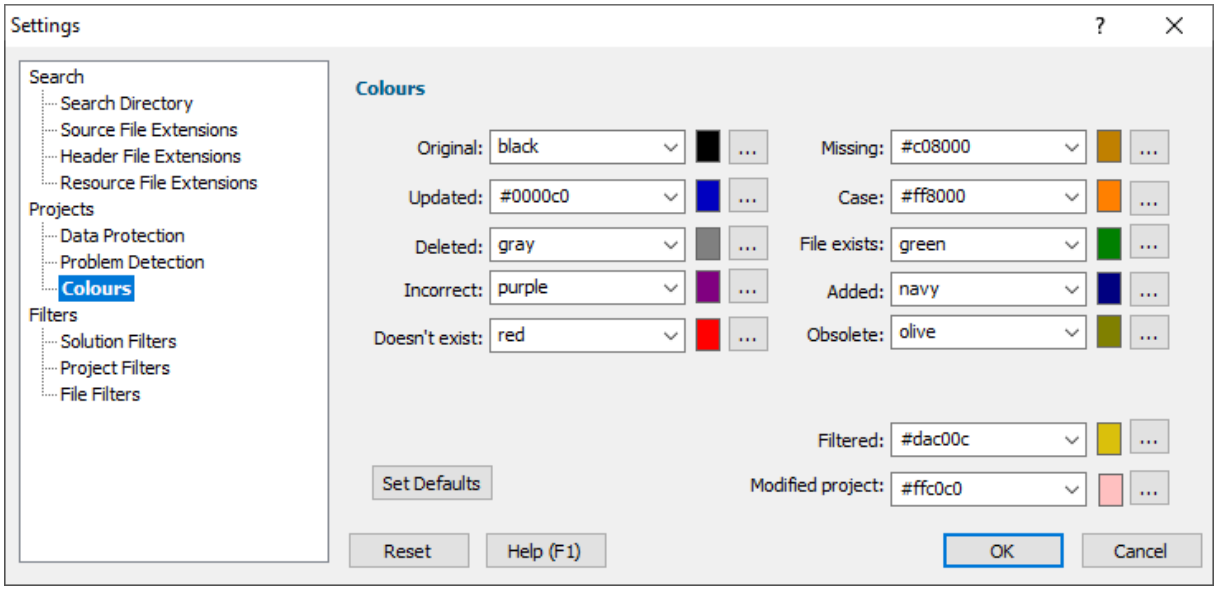
Select the appropriate check box the error detections that you are interested in.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.7 Colours

The Colours settings allow you to configure how Visual Studio Project Fixer assigns colours to different build statuses.



The main user interface displays the build status using colour. This allows you to glance at the display from across the room and know if there is a problem with the the build or not.

For each colour, you can type a colour name or a hexadecimal RGB colour number (prefixed with #), or use the combo box to choose a predefined colour name, or you can click **Edit...** to use the Microsoft Colour Chooser dialog.

Reset

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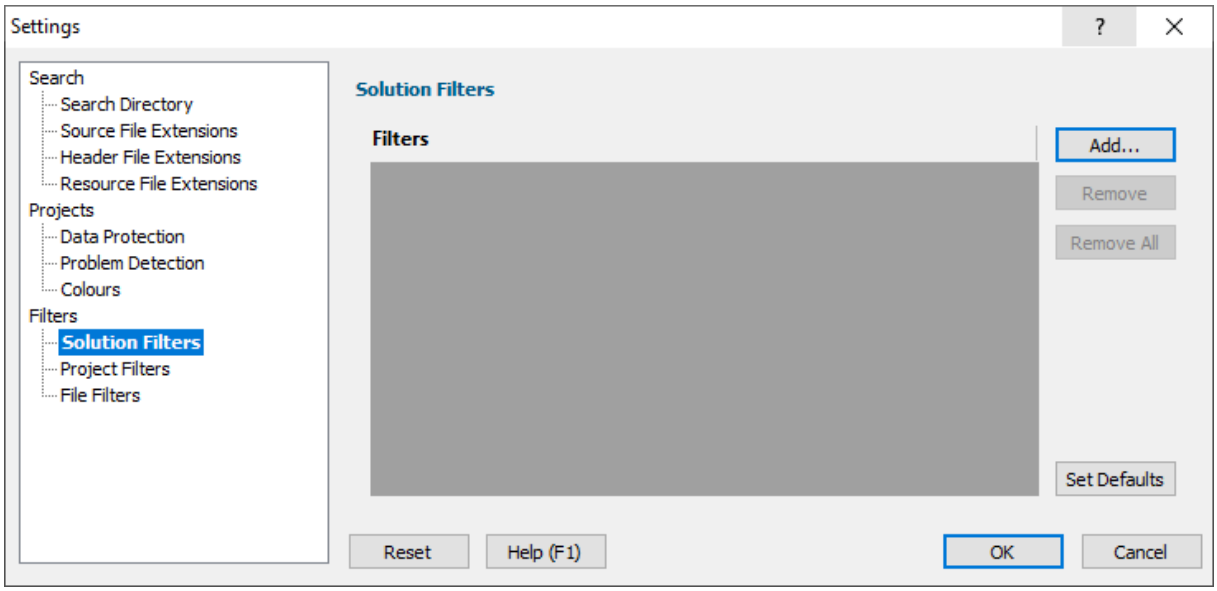
The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.8 Solution Filters

The Solution Filters settings allow you to configure when Visual Studio Project Fixer will ignore a solution rather than process it to discover projects.



In some situations there may be solution files that you don't want processed. To prevent these from being processed we allow you to specify these files as filters.

Visual Studio Project Fixer will ignore any solutions listed in the Solutions Filters when scanning for solutions. Manually specified solutions will always load. By default there are no solution filters.

To remove a filter, select it then click **Remove**.

To clear the list, click **Remove All**.

To add a filter, click the **Add...** button which will display the Microsoft File Chooser.

To reset back to the default solution filters, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.9 Project Filters

The Project Filters settings allow you to configure when Visual Studio Project Fixer will ignore a project rather than process it to discover projects.

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In some situations there may be project files that you don't want processed. To prevent these from being processed we allow you to specify these files as filters.

Visual Studio Project Fixer will ignore any projects listed in the Project Filters when scanning for projects. Manually specified projects will always load. By default there are no project filters.

To remove a filter, select it then click **Remove**.

To clear the list, click **Remove All**.

To add a filter, click the **Add...** button which will display the Microsoft File Chooser.

To reset back to the default project filters, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

4.4.10 File Filters

The File Filters settings allow you to configure when Visual Studio Project Fixer will ignore a file rather than flag that it needs fixing.

In some situations there may be header files that are part of the project but which you don't want listed in the project file. To prevent these showing up as errors that need to be fixed we allow you to specify these files as filters.

Visual Studio Project Fixer will ignore any files listed in the File Filters when detecting errors. By default there are no file filters.

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To remove a filter, select it then click **Remove**.

To clear the list, click **Remove All**.

To add a filter, click the **Add...** button which will display the Microsoft File Chooser.

To reset back to the default file filters, click the **Set Defaults** button.

Reset

The Reset button will cause the settings on all parts of the settings dialog to be reset.

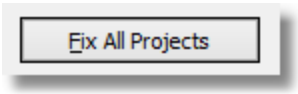
4.5 Fix Projects

Once you have identified problems in a project or projects you will probably want to fix them.

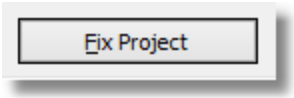
You could work your way through the list of errors and fix them manually. That would be hard work and time consuming.

Or you could allow Visual Studio Project Fixer to fix the problems for you. A backup file will be made if you've requested it, you don't need to worry about your project file being permanently altered or damaged.

The summary page for all projects has a **Fix All Projects...** button.



The summary page for each project has a **Fix Project...** button.



If you click the **Fix All Projects...** or **Fix Project...** button on the **Summary** page of any project you will be shown the Fix All Projects or Fix Project dialog. These dialogs are essentially the same.

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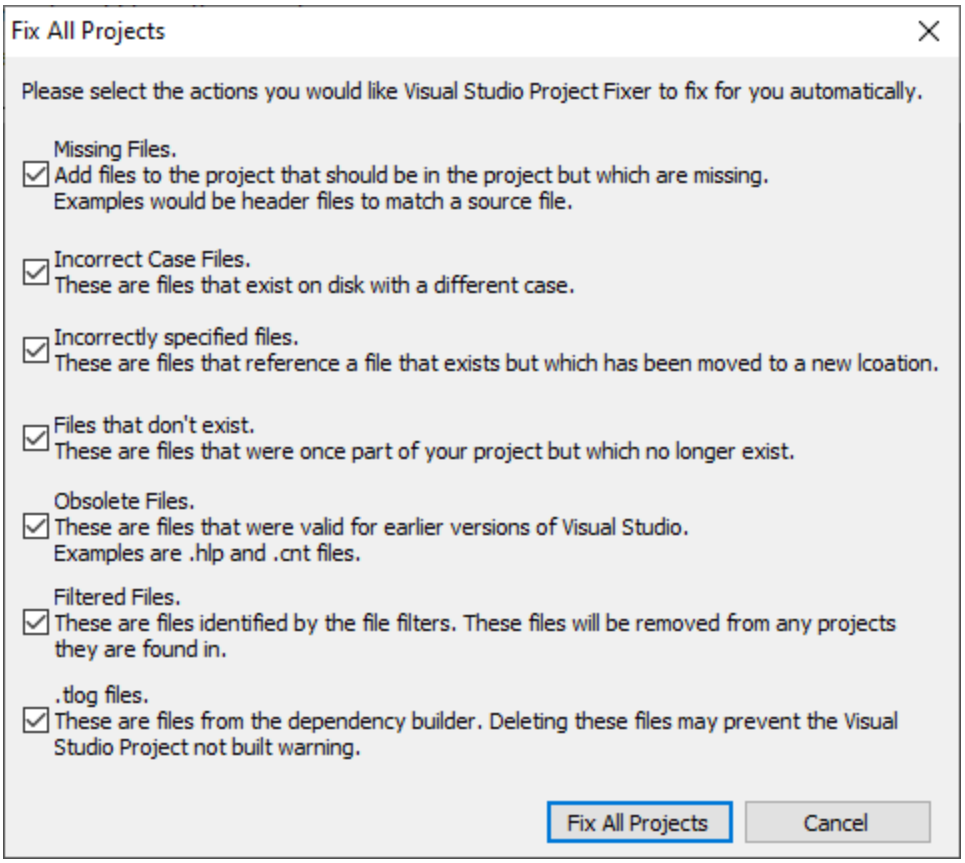

Select the issues you wish to fix then click **Fix All Projects** or **Fix Project** to modify the project accordingly.

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Part V

5 Command line interface

Visual Studio Project Fixer provides a command line user interface to allow you to automate checks for errors in your project files.

Example 1

Scan the directory e:\om\c\projects for Visual Studio projects with both extensions .vcproj and .vcxproj, write a log of possible changes to e:\VSPFlog.txt.

No visual studio projects will be modified.

```
VisualStudioProjectFixer.exe /dir e:\om\c\projects /projects /vcxproj /vcproj /log e:\VSPFlog.txt
```

Example 2

Scan the directory e:\om\c\projects for Visual Studio solutions, load every project mentioned in each solution (if the project has a .vcxproj extension), identify all possible problems, fix all possible problems, save the projects, making a backup of each project.

```
VisualStudioProjectFixer.exe /dir e:\om\c\projects /solutions /vcxproj /detectAll /fixAll /noPromp
```

5.1 Projects and Solutions

Searching for Projects

/dir

Specify the directory hierarchy to search.

If the name contains spaces, it should be quoted.

Examples:

/dir e:\om\c\testApps

/dir "e:\om\c\dev workspace\mainBuild"

/projects

Projects will be searched for using the directory specified by the **/dir** command line argument.

This argument overrides any previous **/solution** argument.

/solutions

Solutions will be searched for using the directory specified by the **/dir** command line argument. The solutions will be loaded and the projects referenced in those solutions will be scanned.

This argument overrides any previous **/project** argument.

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Visual Studio 2002, 2003, 2005, 2008

/novcproj

Project files with the file extension **.vcproj** will not be scanned.

/vcproj

Project files with the file extension **.vcproj** will be scanned.

Visual Studio 2010, 2012, 2013, 2015, 2017

/novcxproj

Project files with the file extension **.vcxproj** will not be scanned.

/vcxproj

Project files with the file extension **.vcxproj** will be scanned.

Moved Projects

/doModifyMovedProjects

Project files that have been moved will be scanned and modified.

/doNotModifyMovedProjects

Project files that have been moved will not be scanned and modified.

Project Backups

/makeBackups

Project files that have been modified will have a backup saved prior to modification.

/noBackups

Project files that have been modified will not have a backup saved prior to modification.

Saving Projects

/promptForSave

When a project has been modified you will be prompted to confirm that it is OK to save the modified project.

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/noPromptForSave

When a project has been modified you will not be prompted to confirm that it is OK to save the modified project.

5.2 Logging

Logging of (potential) modifications to projects

/log

Specify the name of the file to write a log of changes to.

If the name contains spaces, it should be quoted.

Examples:

/log e:\om\c\testApps\test.log

/log "e:\om\c\dev workspace\mainBuild\test.log"

/warnOnlyDoNoChange

Do not change any projects, just list the possible changes in the log file.

5.3 Problem detection

/detectAll

Detect all possible error conditions.

/detectDefault

Reset the detection settings to the default.

/detectDoesNotExist

Detect files that are listed in a project but which don't exist.

/detectFiltered

Detect files that are filtered by the file filters.

/detectIncorrectCase

Detect files that have a mismatch between the case in a project file and filename case on disk.

/detectIncorrect

Detect files that are incorrectly specified in a project file.

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/detectMissing

Detect files that are missing from a project file.

/detectObsolete

Detect files from obsolete version of Visual Studio.

/detectOff

Reset the detection settings to off. List this before any other /detect settings then list at least one /detect setting to detect just that one setting.

/detectTLOG

Detect .tlog dependency files.

5.4 Problem fixing

/fixAll

Fix all possible error conditions.

/fixDefault

Reset the problem fixing settings to the default.

/fixDoesNotExist

Remove files that are listed in a project but which don't exist.

/fixFiltered

Fix files that are filtered by the file filters.

/fixIncorrectCase

Fix files that have incorrect case in a project file.

/fixIncorrect

Fix files that are incorrectly specified in a project file.

/fixMissing

Add files that are missing from a project file.

/fixObsolete

Remove files from obsolete version of Visual Studio.

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/fixOff

Reset the problem fixing settings to off. List this before any other /fix settings then list at least one /fix setting to fix just that one problem.

/fixTLOG

Delete .tlog dependency files.

5.5 Solution Filters

/addSolutionFilter

A solution filter will be added to the solution filters.

If the name contains spaces, it should be quoted.

Examples:

/addSolutionFilter e:\om\c\testSolution\testSolution\testSolution.sln

/addSolutionFilter "e:\om\c\test Solution\test Solution\testSolution.sln"

/deleteSolutionFilters

All solution filters will be deleted.

/resetSolutionFilters

The solution filters are set to the default.

5.6 Project Filters

/addProjectFilter

A project filter will be added to the project filters.

If the name contains spaces, it should be quoted.

Examples:

/addProjectFilter e:\om\c\testProject\testProject\testProject.vcxproj

/addProjectFilter "e:\om\c\test Project\test Project\testProject.vcxproj"

/deleteProjectFilters

All project filters will be deleted.

/resetProjectFilters

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The project filters are set to the default.

5.7 File filters

/addFileFilter

A file filter will be added to the file filters.

If the name contains spaces, it should be quoted.

Examples:

/addFileFilter stdafx.h

/addFileFilter "a file with spaces.h"

/deleteFileFilters

All file filters will be deleted.

/resetFileFilters

The file filters are set to the default.

5.8 Source file extensions

/addSourceFileExtension

A source file extension will be added to the list of source file extensions.

Examples:

/addSourceFileExtension c

/addSourceFileExtension cpp

/deleteSourceFileExtensions

All source file extensions will be deleted.

/resetSourceFileExtensions

The source file extensions are set to the default.

5.9 Header file extensions

/addHeaderFileExtension

A header file extension will be added to the list of header file extensions.

Examples:

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/addHeaderFileExtension h

/addHeaderFileExtension hpp

/deleteHeaderFileExtensions

All header file extensions will be deleted.

/resetHeaderFileExtensions

The header file extensions are set to the default.

5.10 Resource file extensions

/addResourceFileExtension

A resource file extension will be added to the list of resource file extensions.

Examples:

/addResourceFileExtension cur

/addResourceFileExtension ico

/deleteResourceFileExtensions

All resource file extensions will be deleted.

/resetResourceFileExtensions

The resource file extensions are set to the default.

5.11 Command Line Reference

Command line reference

The following alphabetical list provides a convenient look-up for all the command line arguments.

Option	Description
/?	Display the help message on the command line
/addFileFilter	Add a filter to the file filters
/addHeaderFileExtension	Add a header file extension to the list of recognised header file extensions
/addSourceFileExtension	Add a source file extension to the list of recognised source file extensions
/addResourceFileExtension	Add a resource file extension to the list of recognised resource file extensions

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/deleteFileFilters	Delete all file filters
/deleteHeaderFileExtensions	Delete all header file extensions
/deleteSourceFileExtensions	Delete all source file extensions
/deleteResourceFileExtensions	Delete all resource file extensions
/detectAll	Detect all possible error conditions
/detectDefault	Detect the default list of error conditions
/detectDoesNotExist	Detect files that are specified in a project but which don't exist
/detectFiltered	Detect files identified by the files filter
/detectIncorrect	Detect files that are specified incorrectly
/detectMissing	Detect files that should be in a project but which are not
/detectObsolete	Detect obsolete Visual Studio files
/detectOff	Turn all problem detection options off
/detectTLOG	Detect .tlog dependency files
/dir	Specify the directory to search. Used with /projects and /solutions.
/doModifyMovedProjects	Do not modify moved projects
/doNotModifyMovedProjects	Modifying moved projects is allowed
/fixAll	Fix all problems detected
/fixDefault	Fix only the default problems detected
/fixDoesNotExist	Remove from a project any files classified as Do not exist
/fixFiltered	Remove from a project any filtered files
/fixIncorrect	Fix in a project any files classified as Incorrectly specified
/fixMissing	Add to a project any files classified as Missing
/fixObsolete	Remove from a project any files classified as Obsolete
/fixOff	Turn all problem fixing options off
/fixTLOG	Delete files identified as .tlog dependency files from disk
/help	Display the help message on the command line
/log	Specify the log file to save a log of actions (also see /warnOnlyDoNoChange)
/makeBackups	Make backups of modified projects
/noBackups	Don't make backups of modified projects
/noPromptForSave	Don't prompt before saving modified projects
/novcproj	Do not load .vcproj projects (also see /vcproj)
/novcxproj	Do not load .vcxproj projects (also see /vcxproj)
/projects	Scan for projects, not solutions
/promptForSave	Prompt before saving modified projects

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/resetFileFilters	Reset the file filters
/resetHeaderFileExtensions	Reset the header file extensions
/resetSourceFileExtensions	Reset the source file extensions
/resetResourceFileExtensions	Reset the resource file extensions
/solutions	Scan for solutions, not projects
/vcproj	Load .vcproj projects (also see /novcproj)
/vcxproj	Load .vcxproj projects (also see /novcxproj)
/warnOnlyDoNoChange	Don't modify any projects, just identify what is wrong with each project. Use in conjunction with /log.

Run **visualStudioProjectFixer.exe** with the above command line arguments.

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Index

- / -

/addFileFilter 56
/addHeaderFileExtension 56
/addProjectFilter 55
/addResourceFileExtension 57
/addSolutionFilter 55
/addSourceFileExtension 56
/deleteFileFilters 56
/deleteHeaderFileExtensions 57
/deleteProjectFilters 55
/deleteResourceFileExtensions 57
/deleteSolutionFilters 55
/deleteSourceFileExtensions 56
/detectAll 53
/detectDefault 53
/detectDoesNotExist 53
/detectFiltered 53
/detectIncorrect 53
/detectMissing 54
/detectObsolete 54
/detectOff 54
/detectTLOG 54
/dir 51
/doModifyMovedProjects 52
/doNotModifyMovedProjects 52
/fixAll 54
/fixDefault 54
/fixDoesNotExist 54
/fixFiltered 54
/fixIncorrect 54
/fixIncorrectCase 54
/fixMissing 54
/fixObsolete 54
/fixOff 55
/fixTLOG 55
/log 53
/makeBackups 52
/noBackups 52
/noPromptForSave 53
/novcproj 52
/novcxproj 52
/projects 51
/promptForSave 52
/resetFileFilters 56
/resetHeaderFileExtensions 57
/resetProjectFilters 55
/resetResourceFileExtensions 57
/resetSolutionFilters 55
/resetSourceFileExtensions 56
/solutions 51
/vcproj 52
/vcxproj 52
/warnOnlyDoNoChange 53

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