

Rational ClearCase Use in CodeWarrior 10.3

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1 Introduction

The project file structure in CodeWarrior 10.3 is different from that in version 8.3. It contains a lot of folders and files. Programmers use version control systems when developing code so there is a question of which files are important to keep under version control to maintain the project.

This application note discusses the use of the Rational ClearCase version control system in CodeWarrior 10.3. It lists the files needed to maintain the project and describes how to install, set up, use, and uninstall the ClearCase plugin in CodeWarrior 10.3. The ClearCase plugin enables you to check files in and out directly from within CodeWarrior, so it makes the work much more effective.

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2 Project files

The project folder has a lot of files (see [Figure 1](#)). We could categorize them as:

- Project settings
- Source code
- Output files

While the first two groups are essential for the project's life, the third group is an output that CodeWarrior generates. Therefore the first two groups must be kept to be able to port the application, so these files must be kept under the version control system.

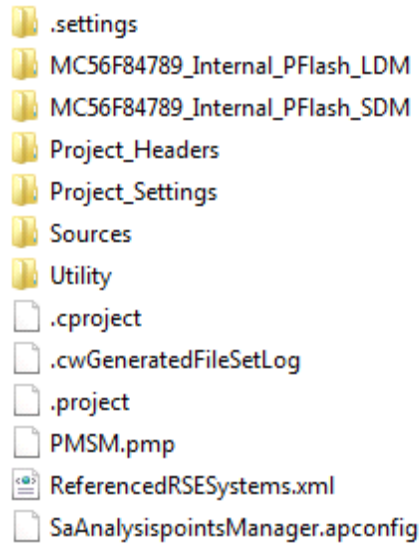


Figure 1. Project folder

2.1 Project settings files

In the project folder, there are these files that describe the project settings:

- .project
- .cproject
- ReferencedRSESystems.xml
- SaAnalysispointsManager.apconfig
- .ttf (only for ColdFire V2)

Then there is a folder `Project_Settings` that contains the necessary files from the debugger's point of view:

- *.launch
- *.tcl
- *.mem

If Processor Expert is used, you must keep its configuration files (.pe).

If FreeMASTER projects are stored in the project folder, these files must be maintained too (.pmp).

2.2 Source code files

The source code files are the most important files from the application point of view. These files must be maintained:

- *.c
- *.h
- *.asm
- If the compiler uses other types, they must be also maintained.

The linker command files that are key for the linker are:

- .cmd
- If the linker uses other types, they must be also maintained.

3 Rational ClearCase

As the title says, the version control used in this paper is Rational ClearCase. The programmer's daily actions of the version control are:

- Check-in
- Check-out
- Add to source control

Along with these three actions, there are many others that are not used as frequently as these. This means that when you create a new or edit an existing source file, you need to work with ClearCase Explorer, for instance. In this case you know which files you want to check out. In case of changing something in the project settings, you do not know which files must be checked out to let CodeWarrior save the settings.

The result of this is that you are inconvenienced and might try to avoid version control actions as much as possible, even though for quality, the project must be kept under revision control.

There is a solution. You can install a version control support plugin, in this case of ClearCase, to check out and check in the files automatically.

3.1 Plugin installation

There are several options of ClearCase plugins for CodeWarrior. In this application note, the original Rational ClearCase plugin is used.

First of all, the plugin installation must be downloaded from the IBM website. You can go to www.ibm.com and search for the latest version of Rational ClearCase SCM Adapter (For Eclipse), or just use this direct link:

<http://www-01.ibm.com/support/docview.wss?uid=swg24025674>

A page with a description of how to install the plugin will be opened. For CodeWarrior 10.3, the notes related to Eclipse 3.4 and higher are valid.

Rational ClearCase

You may choose versions for various operating systems. In this application note, the computer uses Windows 7. Thus the version for Windows is chosen. The link related to Windows is the one that will be used to install the plugin.

The plugin installation is done from CodeWarrior 10.3 in the following way:

1. Launch the CodeWarrior 10.3
2. Go to the main menu Help/Install New Software... to open up the plugin installation dialog.
3. In the Install dialog (see [Figure 2](#)), click on the Add... button to specify the ClearCase path.

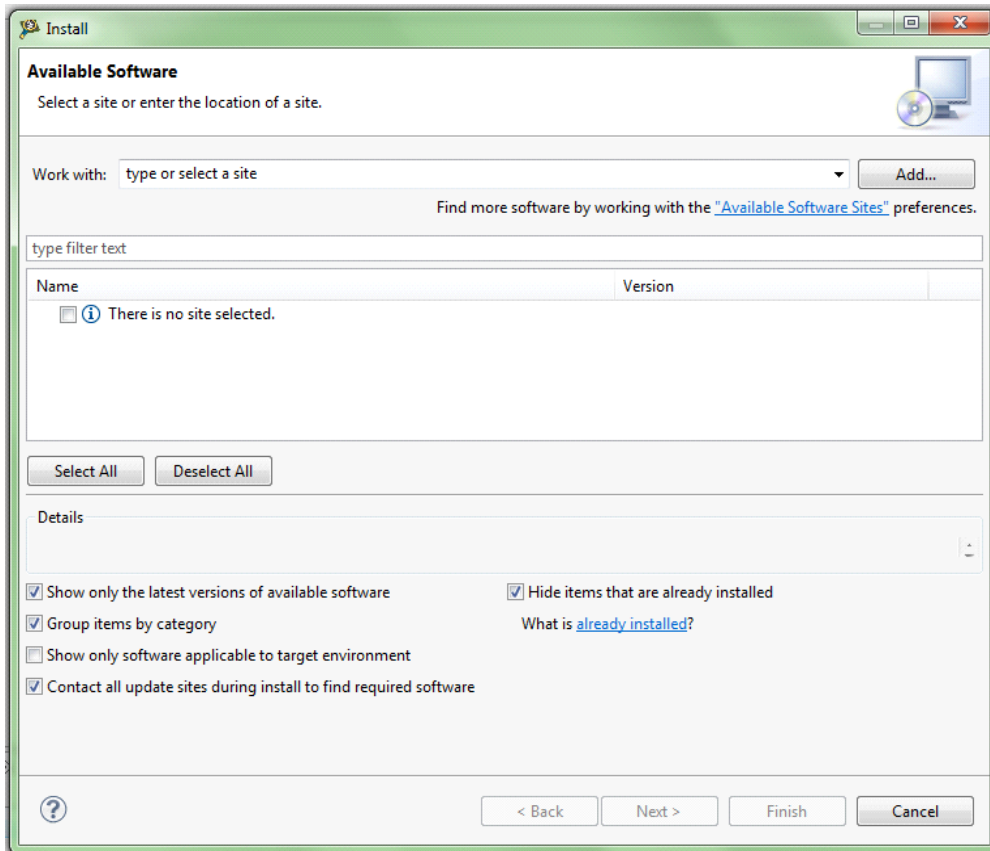


Figure 2. Install plugin

4. In the following dialog box, type the name of the link to this plugin, for example ClearCase.
5. To the location copy the link you have found on the IBM web page:
<http://www3.software.ibm.com/ibmdl/pub/software/rationalsdp/clearcase/60/update/windows/>
 (see [Figure 3](#)). Click OK.

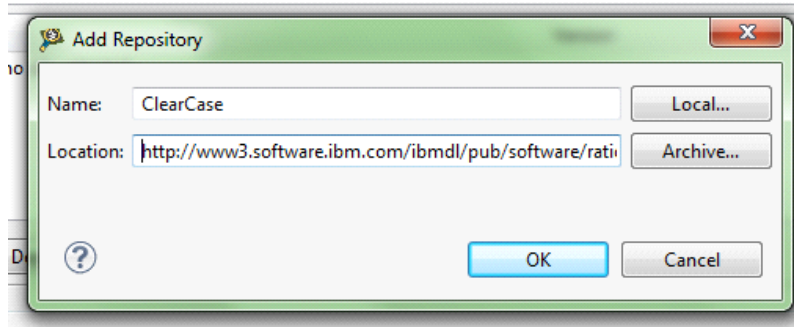


Figure 3. Plugin location

6. The dialog will now fetch the plugin data from the internet. It may take a while. When it finishes, you should see the latest version of the ClearCase plugin (see [Figure 4](#)). If you wanted to install an earlier version, then uncheck the Show only the latest versions of available software option. In this case the latest version, 7.6.0, will be installed. Therefore check the option ClearCase Plugins and click Next.

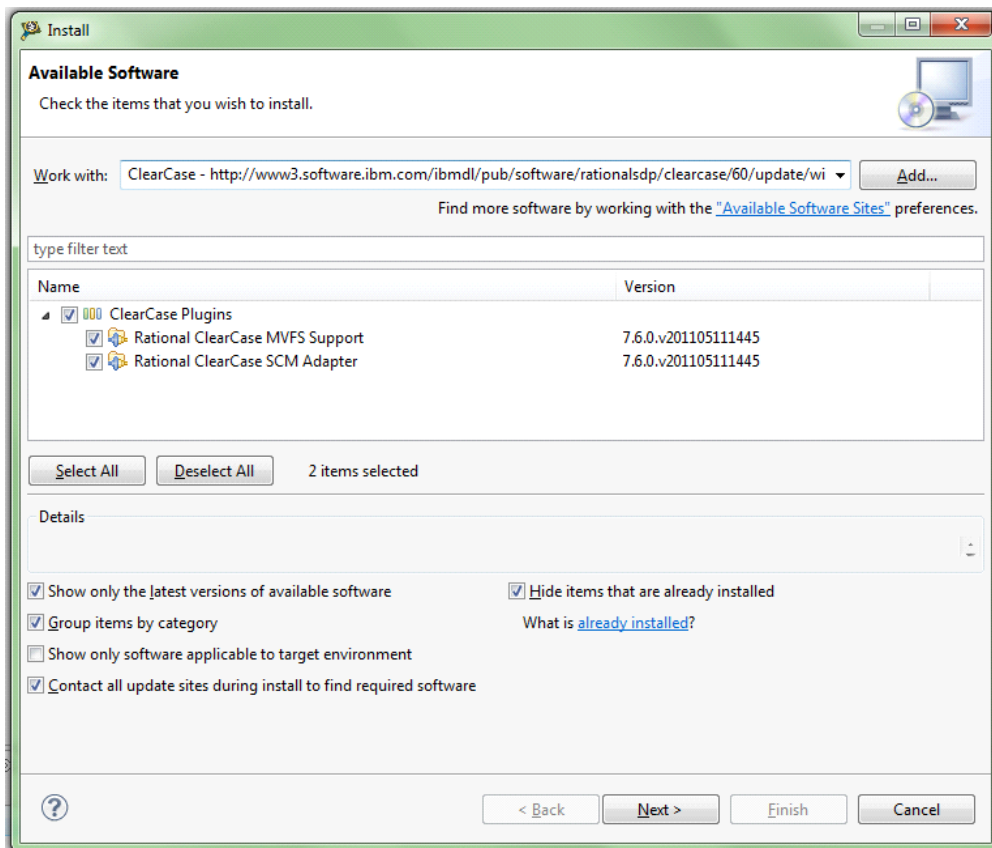


Figure 4. ClearCase plugin selection

7. In the following dialog click Next. Now a dialog asks for the license agreement. You must choose the I accept the terms of the license agreement and click Finish.
8. If a dialog asks you to confirm the installation of an unsigned software, click OK.
9. After the installation, a dialog asks for the CodeWarrior restart. Click Restart Now.
10. After the CodeWarrior restart, you should see the ClearCase menu item.

3.2 ClearCase plugin setup

Before starting to benefit from the ClearCase plugin, it's good to review its settings. To view the ClearCase plugin's setup, go to Window/Preferences in the CodeWarrior main menu. A dialog opens. In this dialog, expand the Team node. Then click on the ClearCase SCM Adapter node. A setup page will appear (see Figure 5).

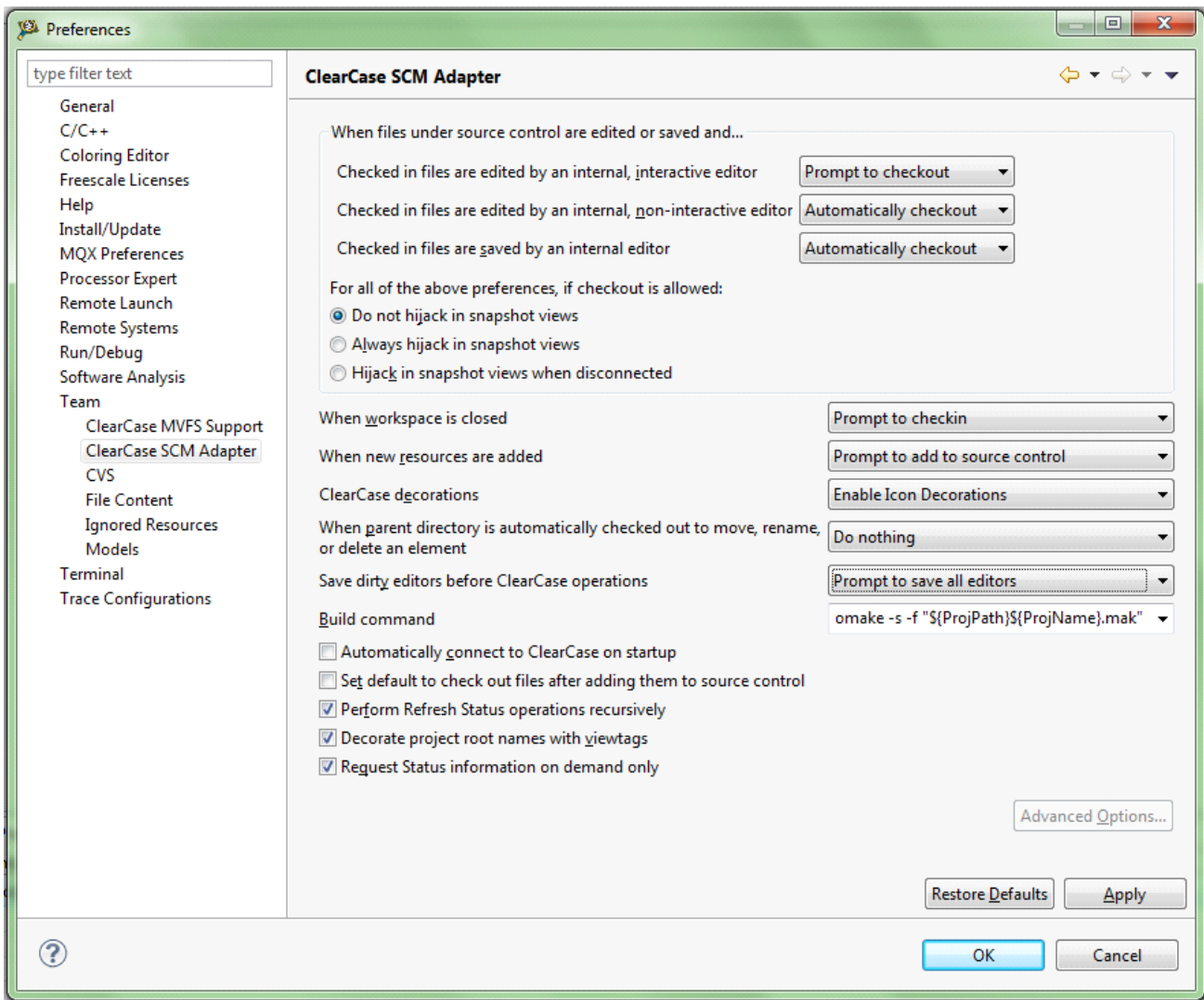


Figure 5. ClearCase setup page

There are several important options to set up the ClearCase behavior. In this application note, the most useful items are described. The first part of the dialog sets up the action of what to do if the checked in files:

1. are edited by an internal, interactive editor — This means that you open up a checked-in source code file in the CodeWarrior internal editor to be edited.
2. are edited by an internal, non-interactive editor — This means that a checked-in file is edited. In this case, it can be when the setting is edited.
3. are saved by an internal editor — This means that a checked-in file is saved. In this case, it can be an output file of the project.

The actions that can be chosen for these instances are the following:

1. Prompt to check out — This option is available only for the case 1 (interactive editor). This option means a dialog will pop up to confirm the files to be checked out if you start editing the source file.
2. Automatically check out — This option means the plugin will check out the file without asking. This is good for the project settings files. If you change the settings, it automatically checks out the proper file.
3. Do nothing — This option means the plugin will not do anything with the file.

Then there is another group of options of what to do if the check out is allowed:

1. Do not hijack in snapshot views — If the check out is allowed, it will never hijack files in the snapshot views.
2. Always hijack in snapshot views — This option will always hijack the files in the snapshot views.
3. Hijack in snapshot views when disconnected — This option will hijack files in the snapshot views when there is no connection with the ClearCase server. This option is good if you work on a computer that is not permanently connected to the network.

If we go down the list, there are additional important options:

- When workspace is closed — This option means, when the project is closed (by you or by CodeWarrior), the following can be chosen:
 - Prompt for check in — This option will list all checked out files when the project is being closed and asks you to choose the files that should be checked in. This option is great because it lets you see which files have been modified when closing the project and you can choose what to do.
 - Automatically check in — This option will check in all the checked out files when the project is being closed.
 - Do nothing — This option will not do anything with the checked out files and the files file remained checked out.
- When new resources are added — This option means that if a new source file is created inside CodeWarrior, it offers:
 - Prompt to add to source control — This option will ask when a new file is created to confirm its addition into the source control. This is good because you do not need to add it using external tools and can choose whether to add it.
 - Automatically add to source control — This option will add the new file into the source control without asking.

- Do nothing — This option will not do anything with the file.
- When parent directory is automatically checked out to move, rename or delete an element — When the parent folder is checked out for some reason:
 - Automatically check in parent directory — This option will automatically check in the parent folder
 - Do nothing — This will not do anything with the folder
- Automatically connect to ClearCase on startup — If this option is chosen, CodeWarrior will automatically try to connect to ClearCase server at start-up. This is not good if the computer is not permanently connected to the network.

At the end, just click on OK and the plugin settings will be saved.

3.3 ClearCase plugin use

To start working with the ClearCase plugin is easy. After CodeWarrior has launched, go to the main menu to the item ClearCase and click on Connect to Rational ClearCase. The launch can take a few moments depending on the network connection. As soon as the system is connected, the rest of the menu will be available (see [Figure 6](#)).

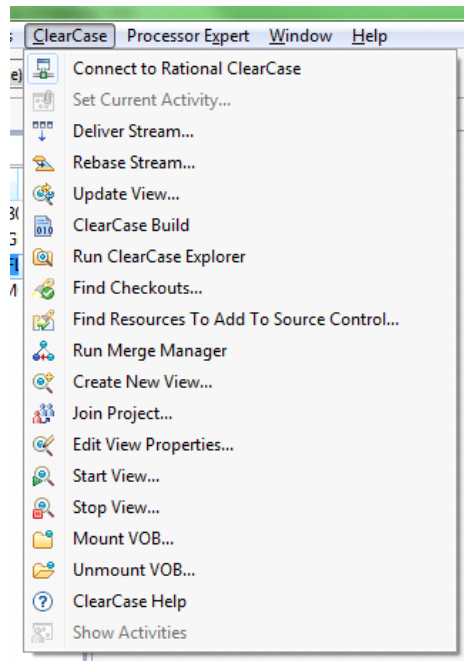


Figure 6. ClearCase menu

This menu allows performing many ClearCase operations like updating the view, finding checkouts, starting/stopping a view, editing view properties, running ClearCase Explore or Merge Manager, and so on, directly from CodeWarrior.

If you open a project under ClearCase and now try to change its preferences, the settings files should be automatically checked out (if that was set up). If you open up a code source file and start editing, it should prompt for check out (if that was set up) (see [Figure 7](#)).

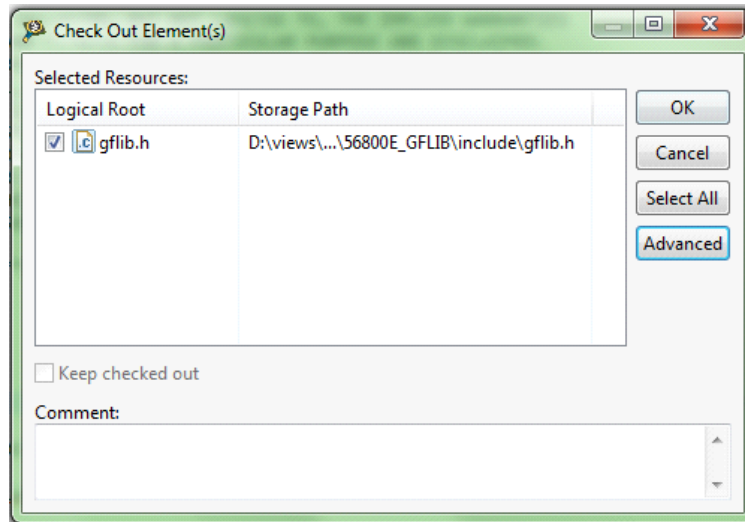


Figure 7. Check out

In this dialog, if you click on:

- OK — It will check out the selected file
- Cancel — It will not do anything with the file
- Advanced — This will open a dialog to determine whether the check out is reserved/unreserved with a few more specifications

There is no need to go to another application if you want to check out the file.

Similarly, when the project is closed (or the environment is closed), if there are edited files that are checked out, the following dialog will appear (see [Figure 8](#)).

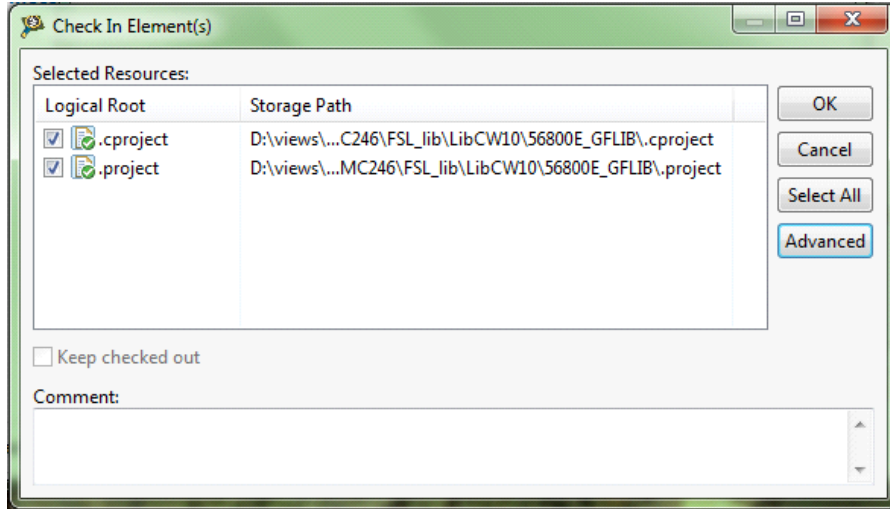


Figure 8. Project closing

In this dialog, if you click on:

- OK — It will check in the selected file
- Cancel — It will not do anything with the files
- Advanced — This will open up a dialog with a few more settings (see [Figure 9](#)):
 - Checkin even if identical — This will check the file even it was not changed
 - Query for comment on each file — This will allow you to comment each file with a different comment
 - Preserve file modified time on checkin — This will not change the time of the file when checked in

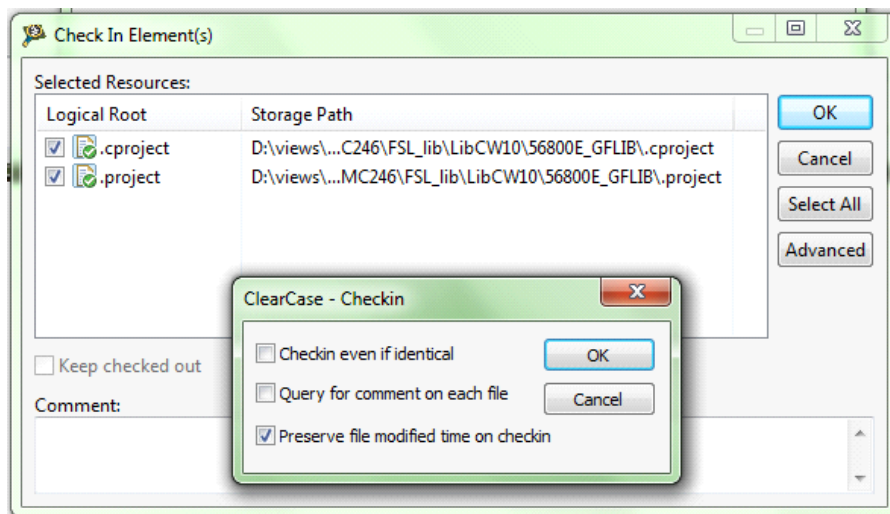


Figure 9. Checkin advanced options

When finishing on a project, you are always informed about checked out files with the offer to be checked in. This will maintain all the files under the version control with the latest versions of code.

3.4 Plugin uninstallation

Sometimes you need to uninstall the plugin from CodeWarrior. This is very simple to do. To uninstall the ClearCase plugin, go to the Window/Preferences menu. In the dialog (see [Figure 10](#)), click on the Install/Update node. In the right-hand part of the dialog, a blue link will appear: Uninstall or update software that is already installed. Click on it.

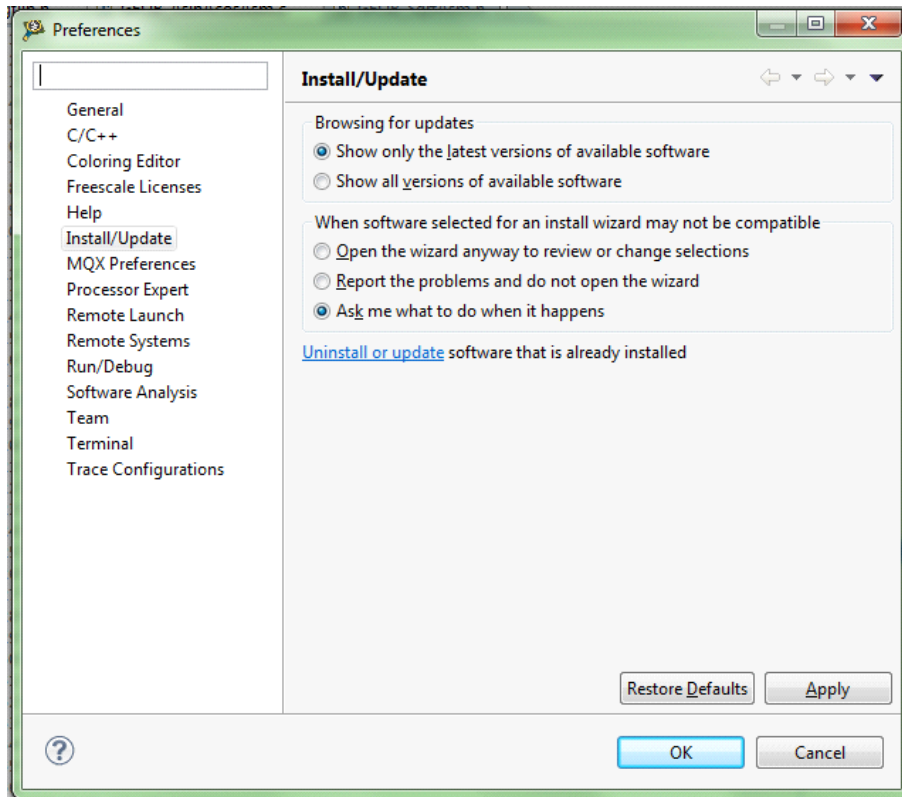


Figure 10. Uninstallation dialog

In the following list (see [Figure 11](#)), you must click on Rational ClearCase MVFS Support and with the CTRL key pressed, click on Rational ClearCase SCM Adapter. Both items should be selected. Click Uninstall.

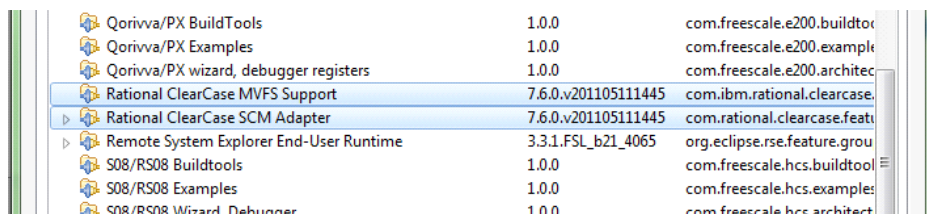


Figure 11. ClearCase uninstallation

Now it will review only the items to be uninstalled. Click Finish and then CodeWarrior will ask you to be restarted. The ClearCase menu will not be available from CodeWarrior after the restart.



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