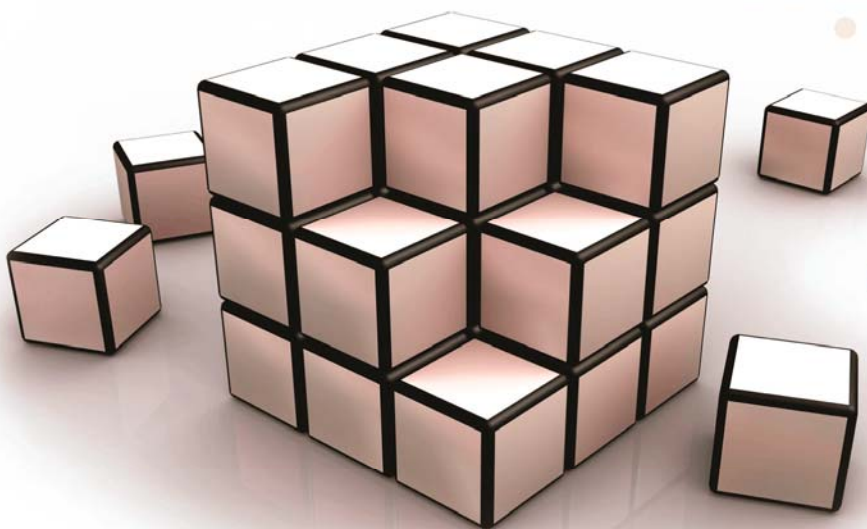




Integration with IBM Rational Software Architect



**Requirements Management
and Engineering**

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Visure Solutions, S.L.

C.I.F.: B-85080554

Headquarters:

Av. de los labradores, 1
28760 – Tres Cantos (MADRID)

Tel.: +34 91.806.17.13

Fax: +34 91 804 39 50

www.visuresolutions.com

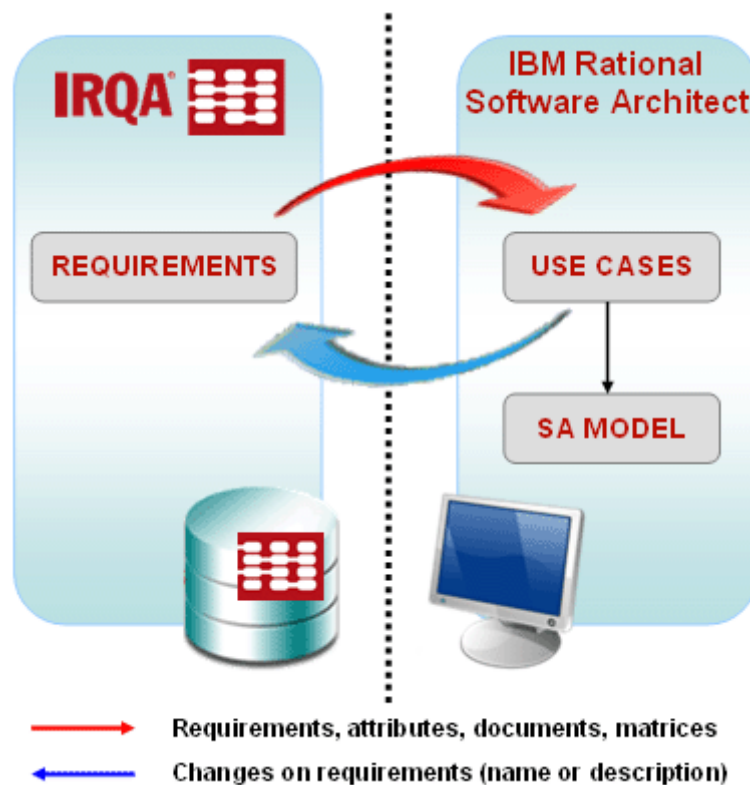
Table of contents

INTRODUCTION	4
HOW TO INSTALL THE IRQA PLUG-IN.....	5
HOW TO RUN THE IRQA PLUG-IN	7
HOW TO USE THE IRQA PLUG-IN.....	8
Elements in the Plug-in.....	8
The requirements explorer view.....	8
The requirements information view.....	9
The Traceability Matrices view.....	9
The Related Requirements view.....	10
The Related Use Cases view.....	10
Opening a project.....	10
Checking requirements information.....	12
Modifying requirements.....	13
Working with associated files in Software Architect.....	14
Relating Requirements to Use Cases.....	14
Updating and synchronizing requirements	15

Introduction

This document describes how to use the IRQA plug-in for IBM Rational Software Architect. The IRQA Plug-in allows the user to associate his requirements from his IRQA projects to the use cases of IBM Rational Software Architect. The user will also be able to see the Traceability Matrices saved in the IRQA project, check the information associated to the requirements or modify requirements directly from the Software Architect Framework.

All the changes made with the Plug-in are stored in the Software Architect project, with the exception of the changes made in the requirements which are stored within the IRQA project.

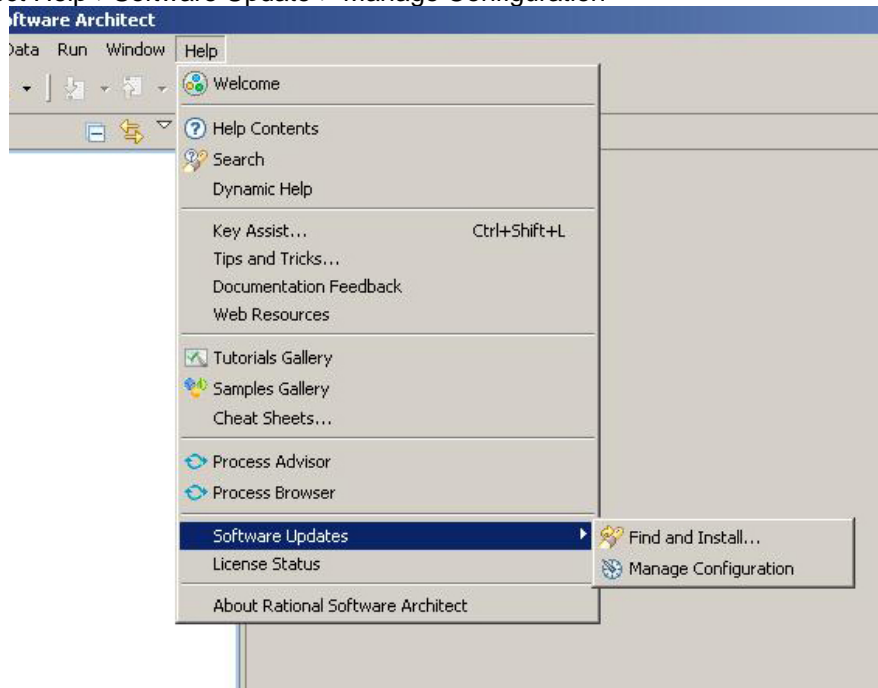


How to install the IRQA Plug-in

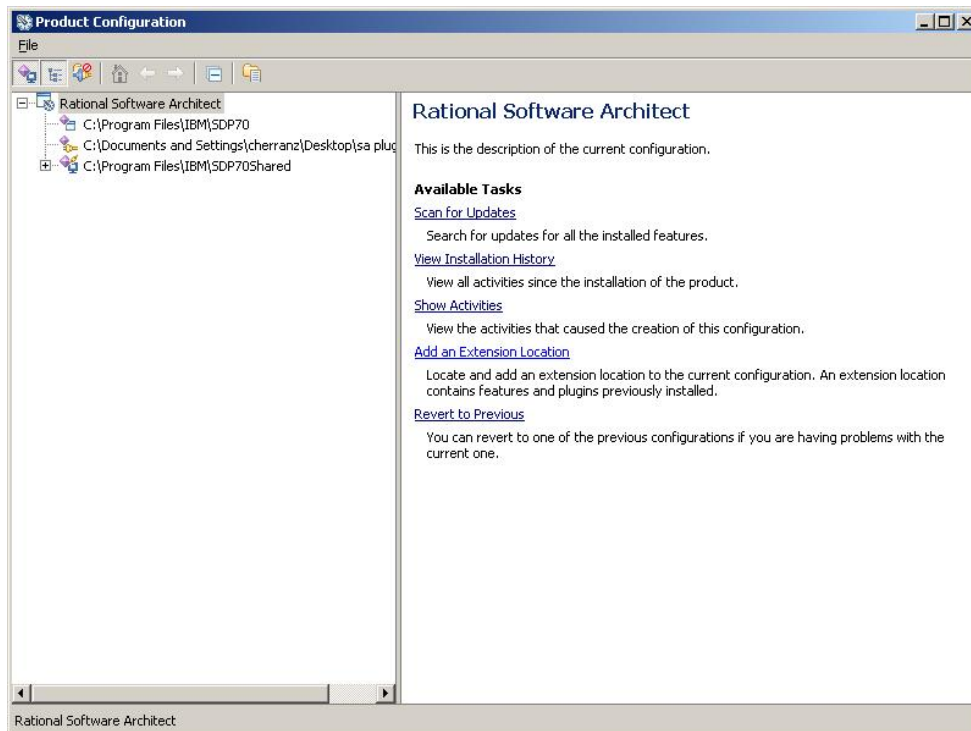
To install the IRQA plug-in, decompress the “IRQA Plugin.rar” file and copy it into the desired folder.

Note.- If the plug-in to be installed is for version RSA 7.5 or subsequent, a previous step should be done. Open RSA and select Window->Preferences, select then the “General” folder and expand it, after that select the “Capabilities” sub-folder and in the right hand side of the panel check the option “Classic Update” and finally press the “OK” button.

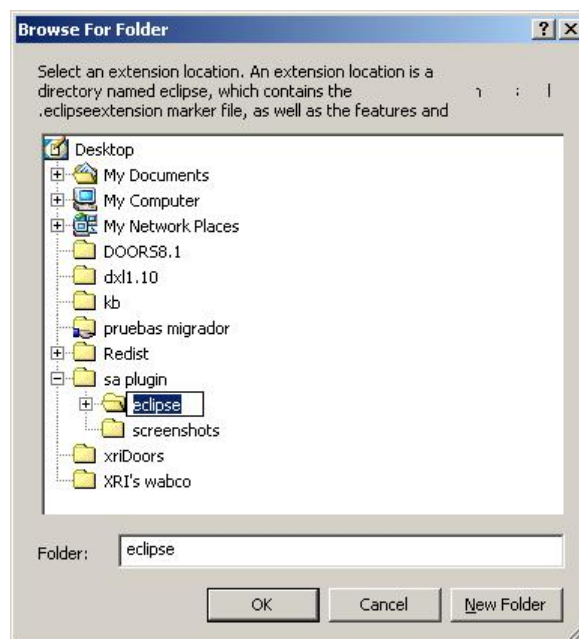
Open RSA and select Help->Software Update-> Manage Configuration




From the management view select the “Add an Extension Location” option:

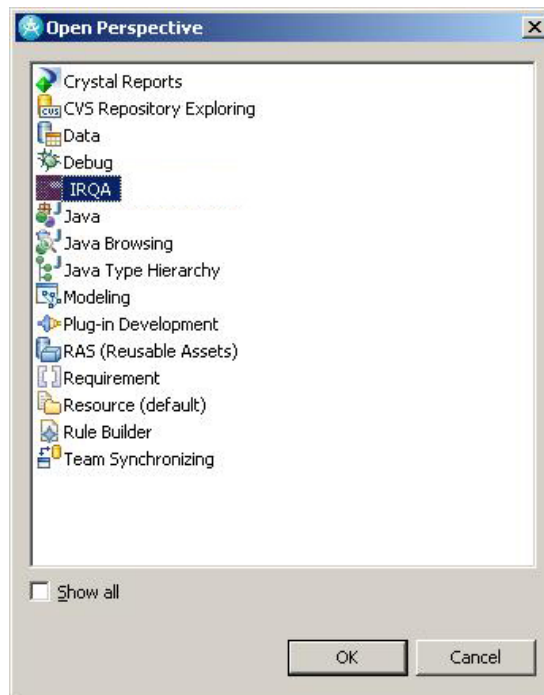


From the “select folder” dialog select the folder where the IRQA Plug-in is contained and then click Accept and restart the application.



How to run the IRQA Plug-in

To run the IRQA Plug-in, click on the “Open a perspective” icon  in the top right corner of your IBM Rational Software Architect main window, choose others and then “Integration with IRQA”.



Additionally, the plug-in can also be opened in the *Open perspective* option, in the *Window* menu.

How to use the IRQA Plug-in

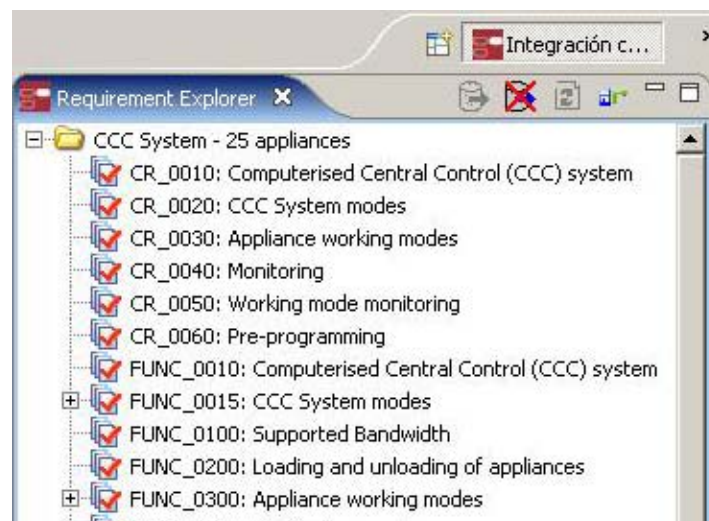
Elements in the Plug-in

There are 5 different views in the IRQA plug-in:







The requirements explorer view

This Tree view contains all the elements (projects, requirements in a hierarchical view and traceability matrices) associated with the open repository. From this view the user can:

- Open or close a repository,
- Add or remove a relationship between a requirement and a use case
- Setup the requirement view
- Modify a requirement

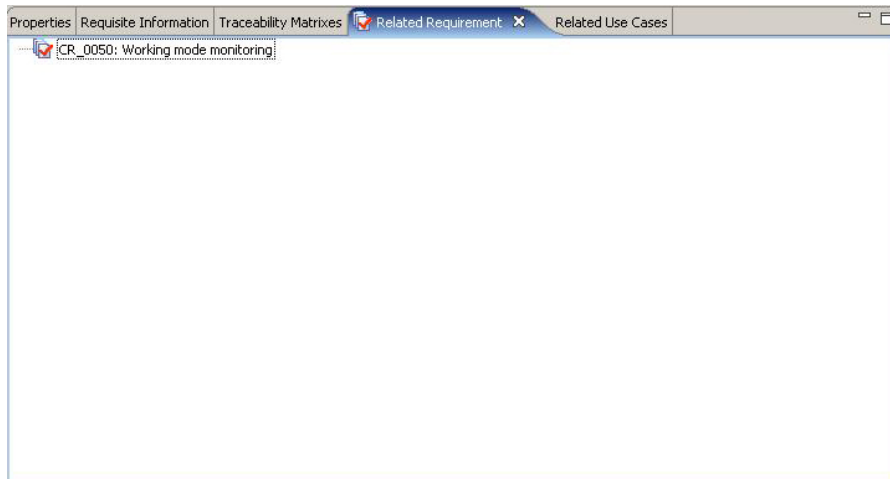


Buttons in the explorer view:

- Toolbar:
 -  : Open a repository
 -  : Close a repository
 -  : Update
 -  : Relate
- Contextual Menu:
 - Over a project:
 -  Update
 -  Setup requirement information view

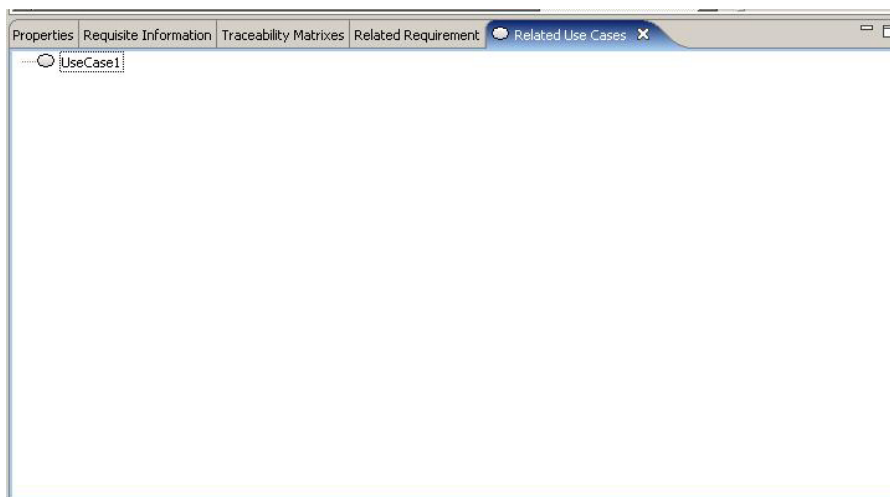
The Related Requirements view

After selecting a use case from the UML diagram the user can check which requirements are associated with the selected use case.



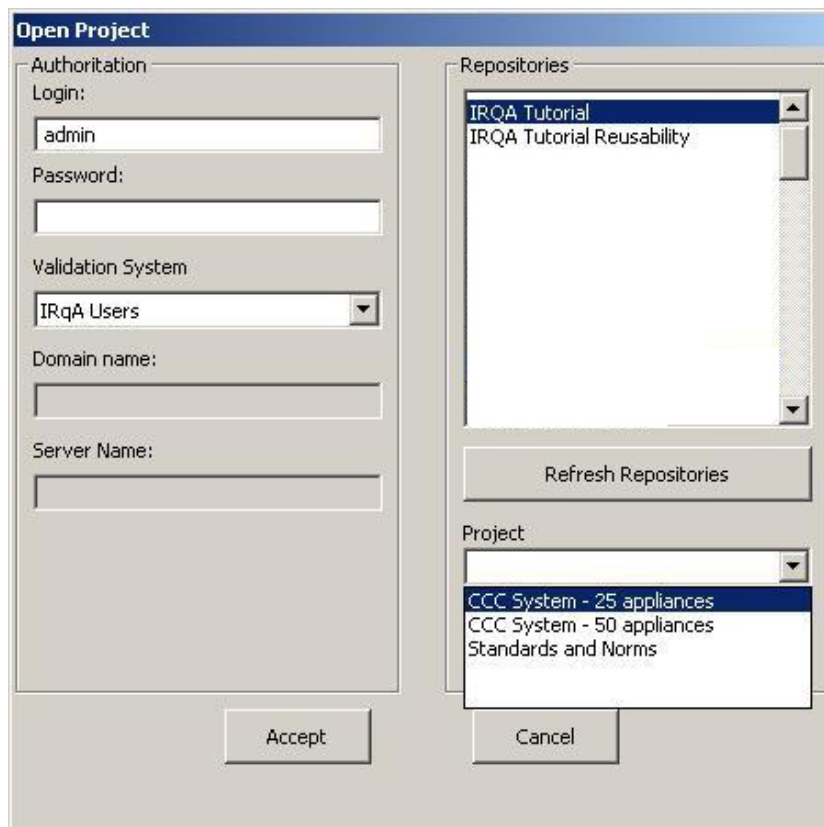
The Related Use Cases view

Similar to the associated requirements view, this view allows the user to see to what use cases the selected requirement is associated to.



Opening a project

To open a project click on the "Open repository" icon on the requirement view toolbar. This will open the following dialog:



In this dialog the user must enter the login, password and user group and the desired repository and project.

This dialog works like the open project dialog in IRQA.

Once the project is opened, the *Requirements explorer* view will look like this



From this tree the user is able to view the requirements of the selected project and the traceability matrices saved in your project.

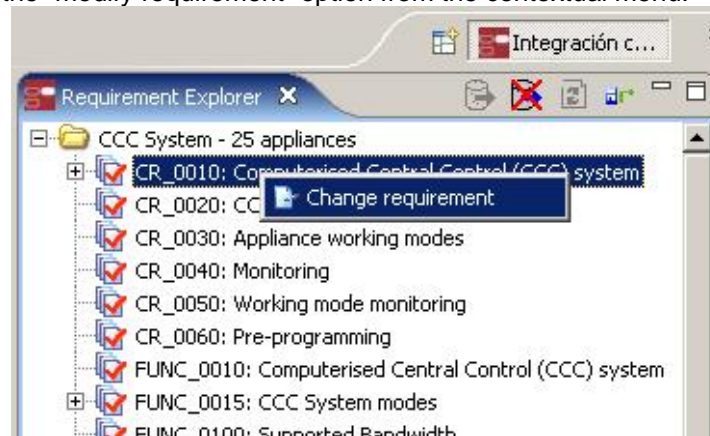
Finally, the IRQA plug-in can import the user view configuration from IRQA. Selecting one of these views in the combo box on the bottom left corner of the dialog



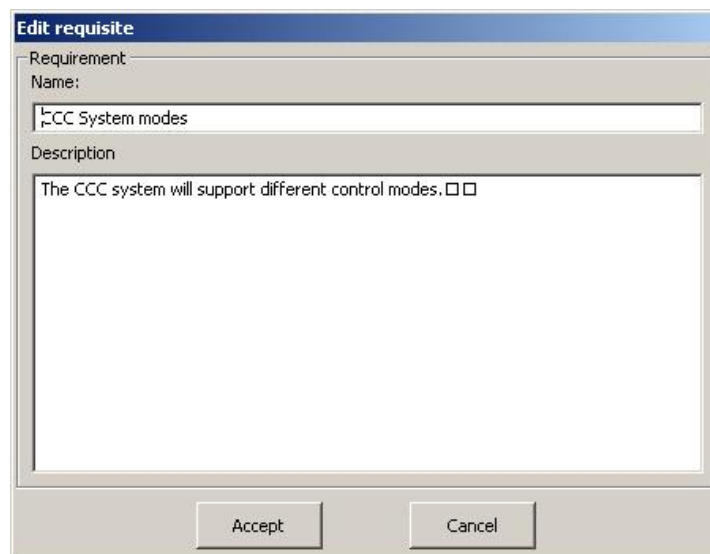
will add the attributes within the saved configuration to the user view.

Modifying requirements

The user may modify the requirements from the “requirement explorer view” by right clicking on the desired requirement and choosing the “modify requirement” option from the contextual menu.



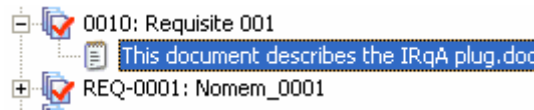
This will lead to the following dialog window



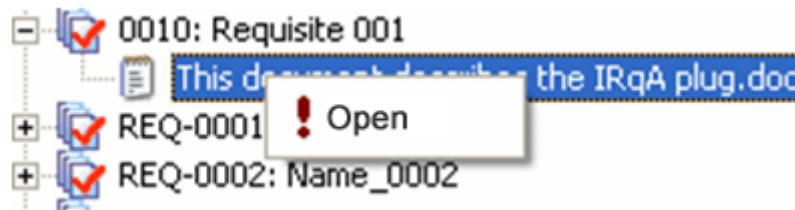
From here the user can modify the name or the description of the selected requirement. The changes will be also exported to your IRQA project.

Working with associated files in Software Architect


The IRQA Plug-In allows the user to see the documents associated with a requirement from the “Requirement explorer view” as shown in the image:



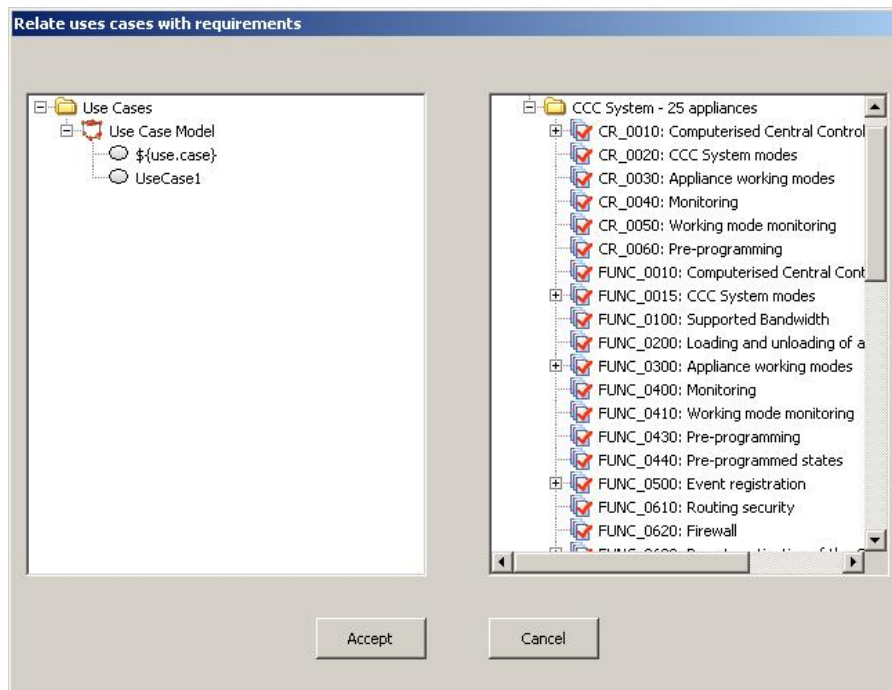
Additionally, the user may open these documents by double clicking over the document or by right clicking on the desired document and selecting “Open” from the contextual menu



Relating Requirements to Use Cases

To relate an IRQA requirement with a Software Architect use case, the user must select the relate option from the IRQA Requirement Explorer toolbar  or right click on any project and choose “open the relationship window” from there after opening the project.

This will lead to the following window



The right panel will display all the requirements from the IRQA project in a tree view, and the left one will be filled with the use cases from the opened models in Software Architect.


In order to start relating requirements with use cases, simply drag and drop the chosen requirements from the right tree to the use cases on the left tree. If the selected requirements are already related with the chosen use case, the drag and drop won't be allowed. Also, if some of the requirements are already related a warning window will pop up and advise the user of this situation.

If the user clicks on the Accept button, the non related requirements will be related.

The user may also unrelate requirements from use cases. In order to do this, the user must select the chosen requirements from the left panel and press the delete key.

Finally, once the changes are made, click on the Accept button to save them or cancel to ignore them.

Updating and synchronizing requirements

The user is able to update his requirements in the IRQA project clicking on the Update button in the *Requirements explorer* toolbar  or by right clicking on the chosen project folder and choosing update from the contextual menu.

This will cause the project to be closed and reopened, retrieving the information from your IRQA repository. However, this won't update the names of the requirements associated with the use cases. To do this, synchronization will be needed.

The Synchronization option from the contextual menu allows the user to update the requirements in his Software Architect project with the information in the IRQA repository in four different ways:

1. Synchronization notifies the user when a requirement has been deleted, deleting it also from the Software Architect project.
2. It also notifies when the version of a requirement has changed.
3. Finally, if the name of a requirement or the code has changed, the synchronization will notify the user and will update the names and codes of the requirements associated with the use cases.

To Synchronize the project, right click on the project and chose Synchronization from the contextual menu.

This will lead to a dialog window where the user may see the requirements affected by the synchronization and the action that has been fulfilled.