



IBM Software Group | Rational software

## IBM Rational Integrations

*Setting up the ClearQuest-Requisite Pro integration (non-ClearQuest test management) for version 7.0*

**Rational** software



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In this module, the integration between Rational ClearQuest and Rational Requisite Pro V7.0 will be set up. This module will not contain the set up information for the integration between Requisite Pro and ClearQuest test management. A separate module has been created for that integration.

## Course objectives

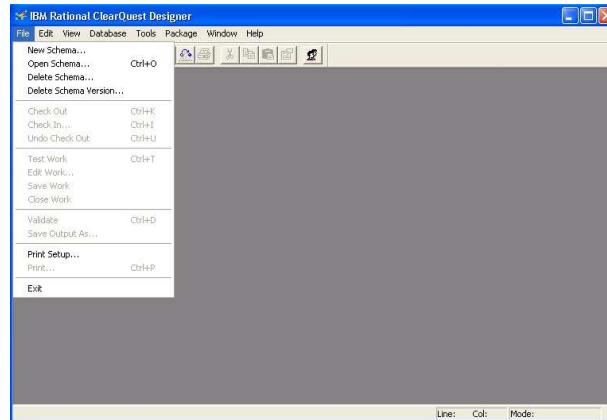
- These topics are covered in this module:
  - Configure the ClearQuest database
  - Apply the proper packages to the ClearQuest database
  - Establish back references in ClearQuest for records
  - Upgrade the ClearQuest user database with the changes
  - Create new attributes in RequisitePro for the record types used for the integration
  - Establish the ClearQuest /RequisitePro integration using the wizard



In this module, you will enable the ClearQuest – RequisitePro integration by first configuring the ClearQuest database, applying packages and back references, then upgrading the user database. You will also see how to create new attributes in RequisitePro for the record types used in this integration, and finally it will all be brought together by creating the Rational Administrator Project and enabling the Integration using the wizard. There are a few facets of this integration that will NOT be covered in this module, though this module will get you started with the basics of the Integration setup.

## Configure the ClearQuest schema

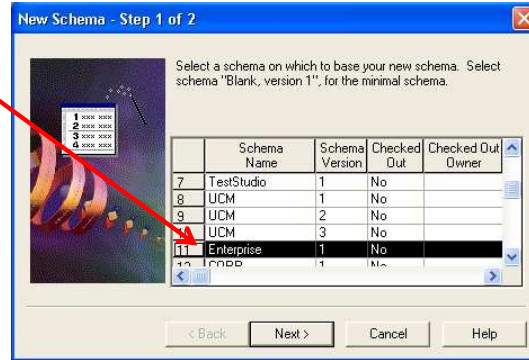
- Open Designer
- Create or reuse schema
- Enterprise schema has most configuration completed



Most of the setup work for this integration is performed in ClearQuest. To get started, open ClearQuest Designer and create a schema and user database or configure existing ones for the integration. If you base your schema on the current version of the Enterprise schema, much of the integration work is complete in IBM Rational ClearQuest. If your schema is based on another schema or if you want to configure additional record types for the integration, you must apply the required packages to your schema and configure a back reference for integrated record types.

## Using the Enterprise schema

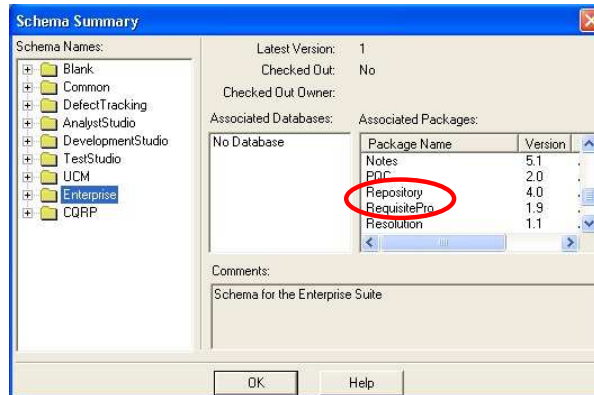
- Contains applied packages
- Record types pre-configured
- Good start for custom Integration



The IBM Rational ClearQuest Enterprise schema contains applied packages and record types that are configured for the integration with IBM Rational RequisitePro requirements. These components meet the requirements for running the sample integration in the integration wizard; but the Enterprise schema is also a good starting point for a custom integration. Base your new schema on the Enterprise schema in order to apply the components on the next few pages.

## Enterprise schema pre-applied packages

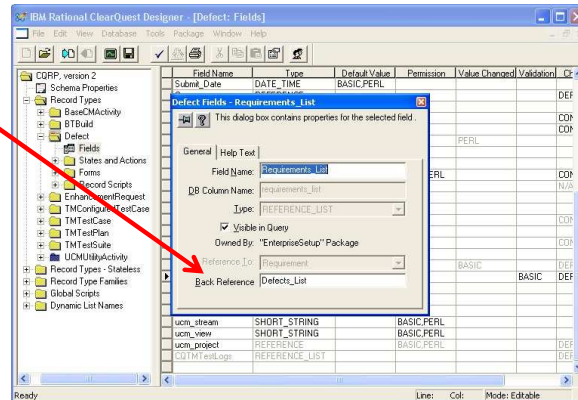
- Applied packages include RequisitePro, repository
- ClearQuest test management also included



Here you can see the packages that are applied to the Enterprise schema and are required for the integration with Rational RequisitePro: RequisitePro, repository and ClearQuest test management, the last of which is used for implementing test plans, configured test cases, and test cases.

## Enterprise schema record types

- Back References are needed for associations
- Several record types contain configured back references



Here you can see the record types that include a **Back Reference** value for making associations to requirements and other Rational ClearQuest records. Those are Defect, EnhancementRequest, TestPlan, TestCase, and TMConfiguredTestCase

## Record types and their actions

<u>ACTION</u>	<u>TYPE</u>
Submit	State Transition
Open*	State Transition
Close*	State Transition
Modify	Modify

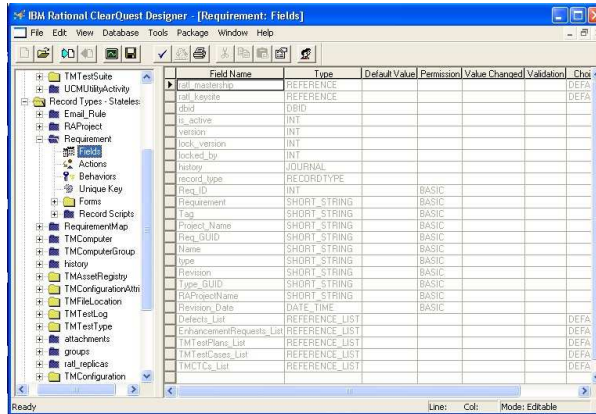
\*Open and close actions apply to the defect and enhancement request record types only.



If you use a custom schema for the **sample** integration, it must contain: A defect record type with a record form and an enhancement request record type with a record form. The table on this slide shows the actions of record types with back references. Aside from defect and enhancement request record types, other record types with back references include test plan, test case, and TMConfiguredTestCase.

## Requirement record type

- Requirement record type contains needed references
- Back reference naming configuration looks like:  
<recordtype>s\_List



Field Name	Type	Default Value	Permission	Value Changed	Validation	Chg
url_keycode	REFERENCE					DEFA
did	DBID					
is_active	INT					
version	INT					
lock_version	INT					
locked_by	INT					
history	JOURNAL					
record_type	RECORDTYPE					
Req_ID	INT	BASIC				
Requirement	SHORT_STRING	BASIC				
Tag	SHORT_STRING	BASIC				
Project_Name	SHORT_STRING	BASIC				
Req_GUID	SHORT_STRING	BASIC				
Name	SHORT_STRING	BASIC				
type	SHORT_STRING	BASIC				
Revision	SHORT_STRING	BASIC				
Type_GUID	SHORT_STRING	BASIC				
RAProjectName	SHORT_STRING	BASIC				
Revision Date	DATE TIME	BASIC				
Defects_List	REFERENCE_LIST					DEFA
EnhancementRequests_List	REFERENCE_LIST					DEFA
TMTestPlans_List	REFERENCE_LIST					DEFA
TMTestCases_List	REFERENCE_LIST					DEFA
TMCTCs_List	REFERENCE_LIST					DEFA

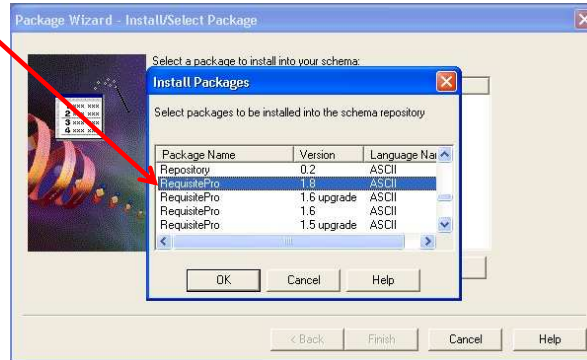
Setting up the ClearQuest Requisite Pro integration for version 7.0

The **Requirement** record type, which is used in association with Rational RequisitePro requirements, includes a field to reference each of the record types discussed on the previous two slides. This includes: Defects\_List, EnhancementRequests\_List, TestPlans\_List, TestCases\_List, and TMCTCs\_List.



## Using a schema other than Enterprise

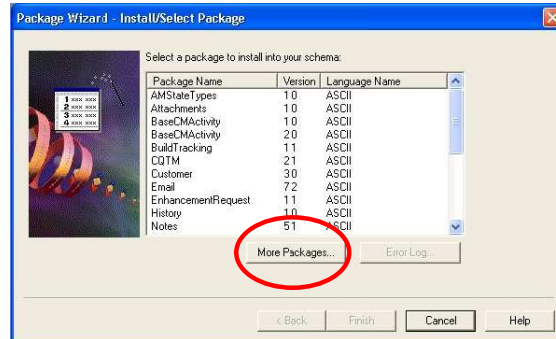
- Must apply RequisitePro package to schema
- Repository added with RequisitePro package
- ClearQuest test management is optional if using with testing



If you did not use the current version of the Enterprise schema when creating your schema, you must now apply the IBM Rational RequisitePro package before you can integrate your IBM Rational ClearQuest database and Rational RequisitePro project. The repository package is also added when you apply the requirement package. You can also apply the ClearQuest test management package to a schema to configure test plan and test case records for the integration with Rational RequisitePro requirements.

## Applying the RequisitePro package to the schema

- Open Package Wizard
- Click “More Packages”
- Select latest version of package to be applied
- Click “Next”



To apply the RequisitePro package to your schema, first in the ClearQuest Designer menu, click **Package** then **Package Wizard**. The Package Wizard is then displayed. To apply the most recent version of the RequisitePro package, you might need to click **More Packages** below the **Select a package** list to compare the version numbers. Select the latest version of the RequisitePro package and click **Next**. Now select the schema for applying the package and click **Next** again.

## Applying the RequisitePro package (continued)

- Select applicable record
- Associate package with record types through setup
- Schema must be checked out
- Create UserDB now if one does not exist



Next, select any applicable record types for implementing the Rational RequisitePro integration, such as Defect EnhancementRequest, TMTestPlan, and TMTestCase. After applying the package, you can associate packages with other record types in ClearQuest Designer with the command **Package > Setup Record Types For Packages**. This requires that you check out the schema. If you have not created a user database in this schema, do so now. If you have created a user database in this schema, apply the schema changes by upgrading your user database.

## Upgrading existing integrations

- Upgrade with latest package versions
- Use Upgrade Installed Packages wizard
- Should include RequisitePro package



Setting up the ClearQuest Requisite Pro integration for version 7.0

If you have an existing schema that is integrated with IBM Rational RequisitePro, you must upgrade the schema with the current version of the packages to implement IBM Rational ClearQuest requirements and associations to test plans and test cases. **To upgrade the schema with current versions of the packages open** the ClearQuest Designer menu, then click **Package** then **Upgrade Installed Packages**. Select the schema to upgrade and click **Next**. The Summary page displays a list of packages to upgrade. This should include the Rational RequisitePro package. Click **Upgrade**, review the results, and then click **Exit**. Depending on the record types that you previously integrated with Rational RequisitePro, you might want to apply the packages to additional record types.

## Upgrading existing integrations (continued)

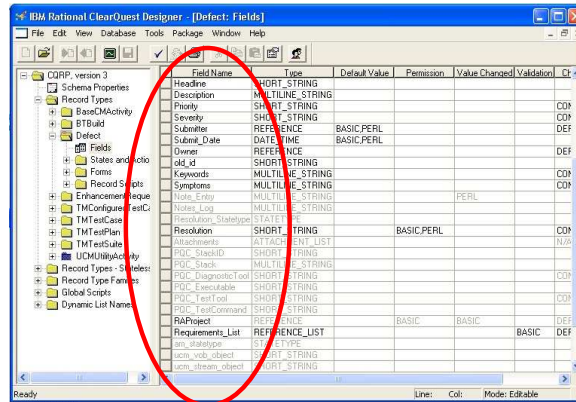
- Apply current versions of packages to existing record types
- Select record type and package to apply
- Click “OK”



To apply the current versions of the packages to existing record types, open the ClearQuest Designer menu and click **Package** then **Setup Record Types for Packages**. Select a record type and any applicable packages to apply then click **OK**. Repeat this procedure to upgrade other record types. Finally, click **Upgrade**, review the results, and then click **Exit**.

## Configuring record types with back references

- Each record type needs a back reference
- Must checkout schema
- Open record type and display fields

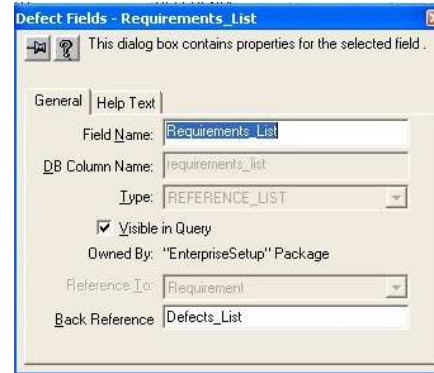


Setting up the ClearQuest Requisite Pro integration for version 7.0

Your schema must have a back Reference value for each record type to which you apply the RequisitePro package. This value is used by IBM Rational ClearQuest requirements to reference associated record types. **To add a back reference field to your schema, perform these steps:** First, in ClearQuest Designer, click **File** then **Open Schema**. The Open Schema window is displayed. Select the option **Checkout a schema to edit** and then select your schema from the list and click **Next**. Click **Finish**. In the schema browser, open the **Record Types** folder. In a record type you selected when you applied the RequisitePro package, double-click **Fields**. The list of **fields** is displayed.

## Configuring back references (continued)

- Right click “Requirements\_List”
- Field properties shows back reference value
- Value is entered in format:  
<recordtype>s\_List
- Some record types might have pre-populated back references

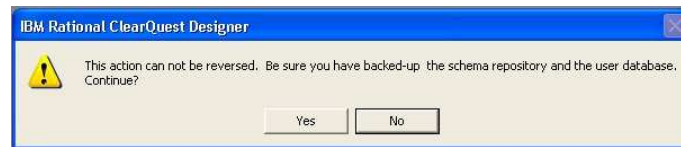
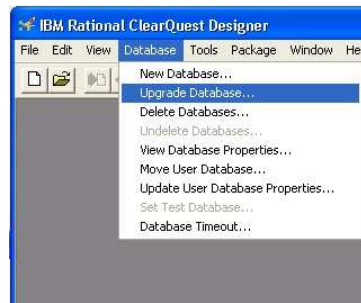


Next, right-click the **Requirements\_List** field name and select **Field Properties**. The Properties window is displayed. At the **Back Reference** field, type a value in the recommended format: <record\_type>s\_List; **For example:** for the Defect record type, enter Defects\_List; for the TMTTestPlan, enter TMTTestPlans\_List. For some schemas, this field might already contain a value or it might be read-only. If so, no action is required. Now close the Properties window. Repeat these steps for each of the record types you selected when you applied the RequisitePro package.

Optionally, you can modify the form for the Requirement record type to view Back Reference values in associated Rational ClearQuest requirements. Use the ClearQuest Designer to add fields to the Requirement record form, such as one for Defects\_List or one for TMTTestPlans\_List. These Back Reference fields are included on tabbed pages in the Requirement record form in the Enterprise schema, but are optional for custom schemas. Now click **File then Check In**. Rational ClearQuest validates the schema and displays a Check In window. Type a comment describing the schema changes and click **OK**.

## Applying changes to the user database

- Back up your UserDB
- Save changes and upgrade
- Select latest version
- Click “Finish”



After modifying the schema, apply the changes you have made to the IBM Rational ClearQuest user database, make sure you back up your database. From the ClearQuest Designer menu, select Database **then Upgrade Database** and click **Yes** to continue. In the Upgrade Database window, select a database for integration with IBM Rational RequisitePro. Click **Next**. Select the latest version of the schema (the schema with the highest version number) and click **Finish**. Click **OK** and close the ClearQuest Designer. Your Rational ClearQuest database is now upgraded to use the current integration between Rational RequisitePro and Rational ClearQuest.



## Configuring the RequisitePro project

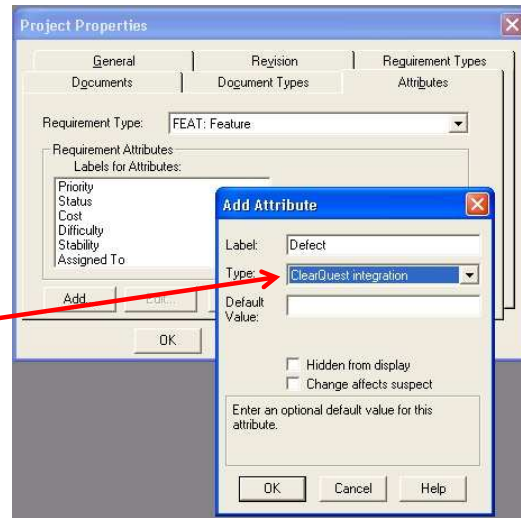
Project Template	Rational RequisitePro Requirement Type	Rational ClearQuest Record Type
Use-Case Template	Feature, Use Case	EnhancementRequest, Defect
Traditional Template	Feature, Software Requirement	EnhancementRequest, Defect
Composite Template	Feature, Use Case, Software Requirement	EnhancementRequest, Defect

Setting up the ClearQuest Requisite Pro integration for version 7.0

To integrate requirements in IBM Rational RequisitePro with IBM Rational ClearQuest records, the requirement type must include an attribute for each record type that you intend to associate. The attribute must be of the **ClearQuest integration** attribute type. The project templates on this slide are included with Rational RequisitePro and include requirement types that are configured for association with Rational ClearQuest records types. For custom setups, you can modify the associations shown on this slide or configure any requirement types for the integration by adding attributes of the **ClearQuest integration** type. For more information about creating requirements and attribute types, see **Requirement types overview** in the Rational RequisitePro Help.

## Configuring requirement types for ClearQuest requirements

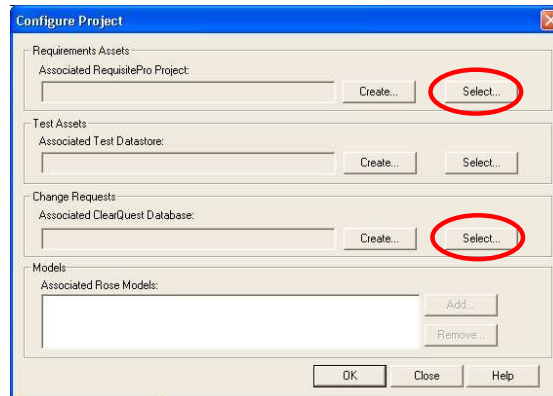
- Open requirement attributes
- Create Attribute as “ClearQuest integration” Type



To create the integration between IBM Rational ClearQuest requirements from IBM Rational RequisitePro requirements, create a requirement attribute with the label **CQ Requirement** for each requirement type that you want to associate with a Rational ClearQuest requirement; typically, these include the feature or Use Case requirement types. The CQ Requirement attribute must be created with the **ClearQuest integration** attribute type. The attribute for the ClearQuest record that is used such as defect or enhancement request also needs to be created with the **ClearQuest integration** attribute type.

## Configure the Rational Administrator project

- Open Rational Administrator
- New Project
- Configure Now to show the Configure Project Wizard
- Use universal naming convention paths with no hidden shares

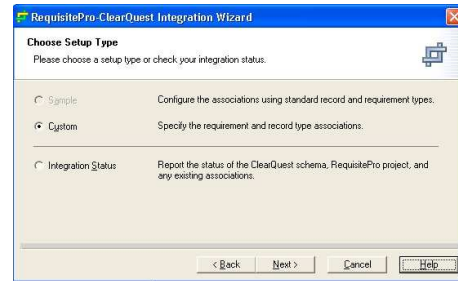
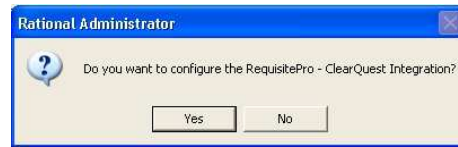


To enable the integration between RequisitePro and ClearQuest, use Rational Administrator to create a Rational Administrator project. When configuring the project, select a ClearQuest database and a RequisitePro project that have been configured for the integration. After configuring a Rational Administrator project, you can use the integration wizard to test the associated components or configure the integration.

**Note that all paths should be universal naming convention paths to everything including the Rational Administrator Project itself. Use of local paths or hidden shared drives will cause the integration to fail.**

## The integration wizard

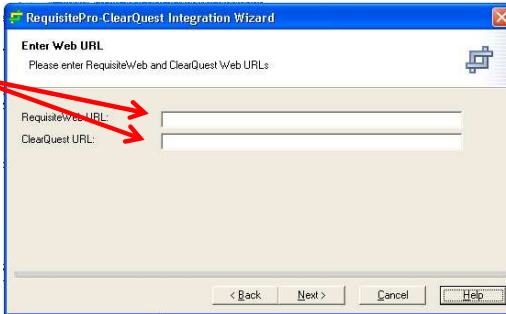
- Click “yes” to show the RequisitePro-ClearQuest Integration Wizard
- Wizard allows setup of new integration or status test of existing integration
- Use wizard to repair integration



The integration wizard for IBM Rational RequisitePro and IBM Rational ClearQuest is available in the IBM Rational Administrator program. Use the integration wizard to set up new integrations or reconfigure and repair existing integrations. The wizard also tests and verifies databases, projects, and associations to help you troubleshoot problems with new and existing integrations. Before running the integration wizard, you must have a Rational Administrator project with an associated Rational RequisitePro project and Rational ClearQuest database; these must have requirement types and record types configured for the integration. To launch the integration wizard, right-click the Rational Administrator project and click **RequisitePro-ClearQuest Integration**.

## The integration wizard (continued)

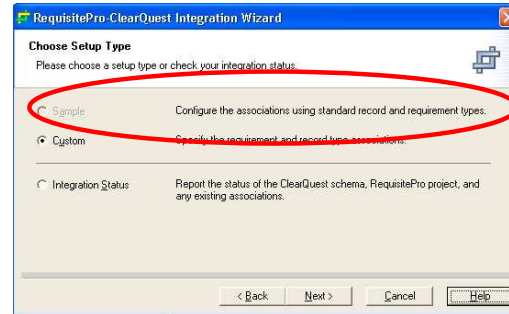
- ClearQuest Web and RequisitePro Web information entered here
- Enter URLs without **/login**
- Web interface is covered in separate module



After entering in the login information the next screen allows for the new option of the integration between IBM Rational ClearQuest Web and IBM Rational RequisitePro Web. In the fields just enter the Web URL's without the **/login**. For this module's purposes, you will not configure the Web to Web Integration.

## The integration wizard – Sample setup type

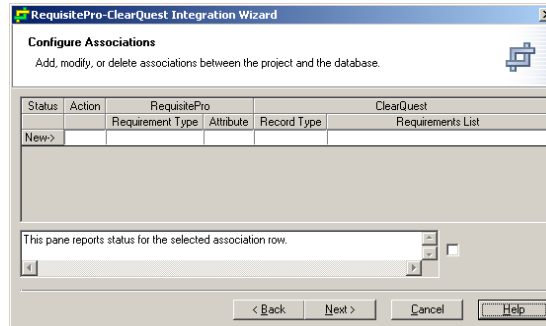
- Defect and EnhancementRequest types
- Feature requirements
- Allows for quick setup or starting point
- Can be customized later



In the sample integration, the Defect and EnhancementRequest record types in IBM Rational ClearQuest are associated with the Feature (FEAT) requirement type in Rational RequisitePro. The FEAT requirement type has two attributes, Defect and EnhancementRequest. For quick setup of the sample integration, or as a good starting point for custom integration, create an IBM Rational RequisitePro project from one of the project templates and create an IBM Rational ClearQuest schema based on the Enterprise schema.

## The integration wizard – Custom setup type

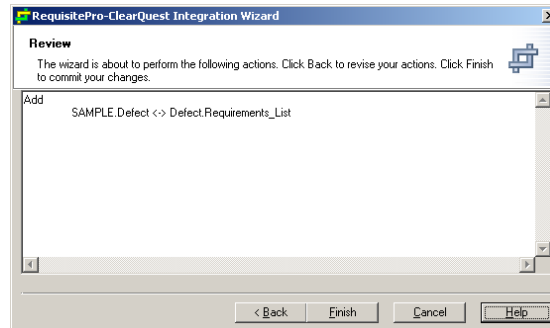
- Associate any Record Type with any Requirement Type
- Most fields have pull down menu in Wizard
- Some fields are optional



A custom integration can associate any record types with any requirement types. Choose the custom setup type to configure the association of requirement types and record types that are not addressed in the sample setup. These include integration with Rational ClearQuest test plans and test cases. After you have configured the Rational ClearQuest database and Rational RequisitePro project for a custom integration, associate them in a Rational Administrator project. Then use the integration wizard to test the configuration. Most of the fields will have a pull down menu to select from. Some will not such as Dialog title which is a free text field; double click your mouse to enter in the field. Help File, RP Help ID and CQ Help ID are not mandatory and can be left blank.

## Custom setup types (continued)

- Select “Finish” to complete the setup
- Integration is ready to use



Selecting **Next** will bring up the final screen in this configuration. Selecting **Finish** will complete the setup and provide a detailed account of what was done. Select **Close on the subsequent screen** and remember that the integration is only configured at this point if you have followed the procedure outlined in this module for both ClearQuest and Requisite Pro. Simply jumping directly to the Integration Wizard to create associations without first following the setup procedures in the point products will NOT enable the integration.



## Configuring access to ClearQuest requirements

- Using Integration Wizard without configuring ClearQuest and RequisitePro first does NOT enable Integration
- Must use Enterprise schema or add packages to custom schema
- Must enable ClearQuest Requirement attribute for at least one requirement type in RequisitePro



Using the integration wizard to configure a sample or custom setup does not configure the integration of IBM Rational RequisitePro requirements with IBM Rational ClearQuest requirements on its own. **To access Rational ClearQuest requirements first** create a schema based on the current version of the **Enterprise** schema or apply the latest version of the RequisitePro and Repository packages to your existing schema. Then in your Rational RequisitePro project, create a **CQ Requirement** attribute for at least one requirement type, such as Feature or Use Case. This new attribute should be of the **ClearQuest integration** type.

## Maintaining record visibility in ClearQuest

- RequisitePro users must have record visibility for all integrated records
- Define record visibility based on RProject field
- RProject field value cannot be changed without removing associations to RequisitePro requirements



To use the integration between IBM Rational RequisitePro and IBM Rational ClearQuest, Rational RequisitePro users must have record visibility throughout the life of all integrated records. The record visibility feature allows you to limit access to certain records. This limited access applies to selected Rational ClearQuest user groups, and is based on criteria defined by an administrator. The criteria specify that records are visible for user groups depending on the value of a specific Rational ClearQuest reference field. You should define record visibility for user groups based on the value of the **RProject** field, which is required for integration with Rational RequisitePro. If you use this criterion, you preserve the integration between Rational RequisitePro and Rational ClearQuest, because you cannot change the value of the **RProject** field without first removing all associations to Rational RequisitePro requirements. In addition, this criterion ensures that all Rational RequisitePro project users have visibility for the same Rational ClearQuest records.

## Module summary

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- Configure ClearQuest and RequisitePro
- Create Rational Administrator project
- Add ClearQuest and RequisitePro to Rational project
- Configure Integration using Wizard



In this module, you have learned how to configure both ClearQuest and Requisite Pro for the integration. You have also learned how to create a new Rational Administrator project, configure that project for the integration of ClearQuest and RequisitePro, and finally use the integration wizard to enable the integration itself.

## Other topics not covered in this module

- Using the integration with ClearQuest Multisite
- Using the integration with Web to Web access
- How to configure and use the batch refresh process
- How to configure the integration for use with CQTM



Several additional topics related to the ClearQuest-Requisite Pro integration were not covered in this module. Those topics include: Using the integration with ClearQuest Multisite, Using the integration with Web to Web access, How to configure and use the batch refresh process and how to configure the integration for use with ClearQuest test management. These four topics will be covered in separate online modules

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