

Version 7.0
Windows



Using Project Tracker



Using Project Tracker

Before using this information, be sure to read the general information under .“Notices,” on page 31.

This edition applies to **version 7.0.0.0 of IBM Rational ClearQuest (product number 5724G36)** and to all subsequent releases and modifications until otherwise indicated in new editions. This edition replaces **GI11-6239-05**.

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About this book

This user guide explains how to install, configure, and use IBM® Rational® ClearQuest® Project Tracker.

Who should read this book

Project managers, individual contributors, and team managers who are familiar with Microsoft® Project and a defect tracking system.

Typographical conventions

This manual uses the following typographical conventions:

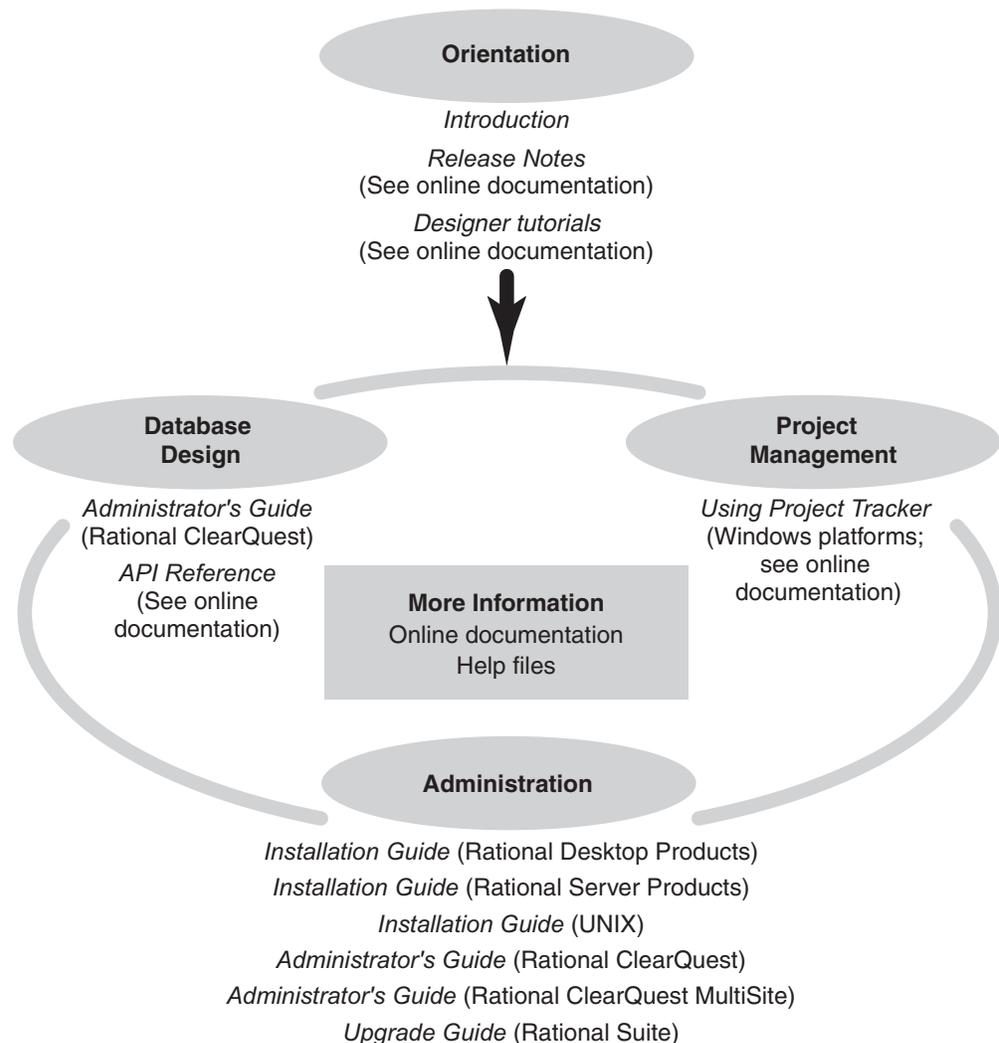
- *ccase-home-dir* represents the directory into which Rational ClearCase, Rational ClearCase LT, or Rational ClearCase MultiSite has been installed. By default, this directory is /opt/rational/clearcase on the UNIX system and Linux, and C:\Program Files\Rational\ClearCase on Windows.
- *cquest-home-dir* represents the directory into which Rational ClearQuest has been installed. By default, this directory is /opt/rational/clearquest on the UNIX system and Linux, and C:\Program Files\Rational\ClearQuest on Windows.
- **Bold** is used for names the user can enter; for example, command names and branch names.
- A sans-serif font is used for file names, directory names, and file extensions.
- **A serif bold font** is used for GUI elements; for example, menu names and names of check boxes.
- *Italic* is used for variables, document titles, glossary terms, and emphasis.
- A monospaced font is used for examples. Where user input needs to be distinguished from program output, **bold** is used for user input.
- Nonprinting characters appear as follows: <EOF>, <NL>.
- Key names and key combinations are capitalized and appear as follows: Shift, Ctrl+G.
- [] Brackets enclose optional items in format and syntax descriptions.
- { } Braces enclose a list from which you must choose an item in format and syntax descriptions.
- | A vertical bar separates items in a list of choices.
- ... In a syntax description, an ellipsis indicates you can repeat the preceding item or line one or more times. Otherwise, it can indicate omitted information.

Note: In certain contexts, you can use “...” within a pathname as a wildcard, similar to “*” or “?”. For more information, see the **wildcards_ccase** reference page.

- If a command or option name has a short form, a “slash” (/) character indicates the shortest legal abbreviation. For example:

1sc/heckout

Related information



Contacting IBM Customer Support for Rational software products

If you have questions about installing, using, or maintaining this product, contact IBM Customer Support as follows:

The IBM software support Internet site provides you with self-help resources and electronic problem submission. The IBM Software Support Home page for Rational products can be found at <http://www.ibm.com/software/rational/support/>.

Voice Support is available to all current contract holders by dialing a telephone number in your country (where available). For specific country phone numbers, go to <http://www.ibm.com/planetwide/>.

Note: When you contact IBM Customer Support, please be prepared to supply the following information:

- Your name, company name, ICN number, telephone number, and e-mail address

- Your operating system, version number, and any service packs or patches you have applied
- Product name and release number
- Your PMR number (if you are following up on a previously reported problem)

Downloading the IBM Support Assistant

The IBM Support Assistant (ISA) is a locally installed serviceability workbench that makes it both easier and simpler to resolve software product problems. ISA is a free, stand-alone application that you download from IBM and install on any number of machines. It runs on AIX, (RedHat Enterprise Linux AS), HP-UX, Solaris, and Windows platforms.

ISA includes these features:

- Federated search
- Data collection
- Problem submission
- Education roadmaps

For more information about ISA, including instructions for downloading and installing ISA and product plug-ins, go to the ISA Software Support page.

IBM Support Assistant: <http://www.ibm.com/software/support/isa/>

Chapter 1. About Project Tracker

IBM Rational ClearQuest Project Tracker is an add-in to Microsoft Project that integrates Rational ClearQuest functionality. Project Tracker can be used with Microsoft Project 2000, 2002, or 2003.

You can use Project Tracker to export tasks from a Microsoft Project project plan to create new database records in IBM Rational ClearQuest. You can also import records from Rational ClearQuest to create new project plan tasks in Microsoft Project. Records and tasks are linked so that you can synchronize them periodically.

Linking a project plan with a database

When you set up a Microsoft Project project plan to work with Project Tracker, you create a link between that project plan and a Rational ClearQuest database. The link ensures that future import, export, and synchronize operations are always performed against the same database. For more information about linking, see Chapter 3, “Linking a project plan to a Rational ClearQuest database,” on page 9.

Importing Rational ClearQuest records to create new Microsoft Project tasks

In most cases, each task in the project plan corresponds to a single record in the Rational ClearQuest database.

You can create new tasks in a project plan from records in a Rational ClearQuest database. You can also configure Project Tracker to preserve parent/child relationships when importing records from Rational ClearQuest. When parent/child mapping is enabled, Project Tracker sets imported tasks as subtasks of their designated parent task.

For more information, see Chapter 5, “Importing records from Rational ClearQuest,” on page 15.

Exporting Microsoft Project tasks to create ClearQuest records

You can also create new records in a Rational ClearQuest database that correspond to project plan tasks. Fields in the newly created Rational ClearQuest record are initialized from the project plan task.

You can export parent (summary) tasks and child (subtasks) to a Rational ClearQuest database. In the Rational ClearQuest database, the child records are linked to the parent record by means of a Rational ClearQuest field of type REFERENCE.

Project Tracker does not create database records for milestones, which indicate the completion of a project phase.

For more information, see Chapter 6, “Exporting tasks from Microsoft Project,” on page 19.

Synchronizing a project plan with a Rational ClearQuest database

When changes have been made to both a task and its linked record, resolution behavior is determined by precedence information that you set in the **Precedence** field of the Task Field Mapping window. Three options are available:

- Rational ClearQuest takes precedence.
- Microsoft Project takes precedence.
- Prompt user.

A log file is available to track updated information, and, if necessary, to reverse changes.

The synchronize function replicates changes between existing pairs of linked tasks and records, but does not create new records or project tasks. You must use the import and export functions to create project tasks from database record and to create database records from new project tasks.

For more information, see Chapter 7, “Synchronizing data,” on page 23.

Creating a mapping configuration

Project Tracker supports two types of field mappings:

- Automatically mapped fields, which include various scheduling fields.
- Optional fields. Any field in a Rational ClearQuest record of the appropriate data type can be mapped to a field in Microsoft Project.

You can customize mappings between Rational ClearQuest and Microsoft Project for both types of fields. A single field in Microsoft Project can be mapped only to a single field in Rational ClearQuest.

For more information, see Chapter 4, “Setting up field mappings,” on page 11.

Creating records in a Rational ClearQuest database

To understand how information is exchanged between Microsoft Project and Rational ClearQuest, it is helpful to know how to create records in a Rational ClearQuest database.

Team members create records by entering data in forms that Rational ClearQuest generates. The records are stored in the Rational ClearQuest database. The forms consist of pages and fields that vary according to the type of activity being tracked.

The **Main** and **Schedule** pages are Rational ClearQuest forms used for submitting information to Project Tracker.

Your Rational ClearQuest administrator customizes these forms for your project.

- The **Main** page includes the **Headline**, **Description**, and **Owner** fields. The **Schedule** page is divided in two sections and includes fields for planned and actual dates.
- The **Planned** section on the **Schedule** page includes mostly read-only fields that store scheduling data provided from the project plan. The **Actual** section contains data that is provided and updated by the team member who is using Rational ClearQuest.

When the project manager imports a record from Rational ClearQuest to create new tasks, information on the **Main** page and in the **Actual** section of the **Schedule** page is copied to the project plan.

When the project manager exports tasks to create new records in Rational ClearQuest, information is copied in the **Main** page and in the **Planned** section of the **Schedule** page.

In some cases, corresponding fields might be mapped to each other; that is, the text that appears in the project task might be different from the text that appears in the database record, but Project Tracker recognizes the fields as equivalent. For example, you can set **QA** in the **Project Resource** field of a project plan as the equivalent of **Quality Engineer** in the **Username** field in a ClearQuest database record.

Rational ClearQuest assigns a unique identification (ID) number for every record. This ID is used to link the record with its associated project plan task, so that information exchanged between them. For more information, see Chapter 7, "Synchronizing data," on page 23.

Chapter 2. Installing and upgrading Project Tracker

This chapter explains how to how to install and upgrade Project Tracker.

Prerequisites and platform dependencies

These products must be installed before you set up Project Tracker.

- Rational ClearQuest
- Microsoft Project
- The .NET Framework (available through Windows[®] Updates)

Project Tracker uses COM to communicate with Rational ClearQuest, which means platforms supported by Project Tracker are defined by Microsoft Project, not by Rational ClearQuest. The Rational ClearQuest server can be deployed on a Windows machine or a UNIX[®] machine that uses any of the supported Rational ClearQuest databases. All that is required is that the Windows client machine have the Rational ClearQuest client and Microsoft Project installed.

Installing Project Tracker

To install Project Tracker for the first time:

1. Rational ClearQuest Project Tracker is installed with Rational ClearQuest when the .NET Framework and Microsoft Project are already installed on the workstation. If the .NET Framework and Microsoft Project are not installed when you install Rational ClearQuest, install these products and reinstall Rational ClearQuest if you decide to use Project Tracker. For instructions to install Rational ClearQuest from a download or release area, see the *IBM Rational Desktop Products Installation Guide*.
2. Update the Rational ClearQuest database schema for your project. Apply the latest versions of both the AMBaseActivity and AMWorkActivitySchedule packages to each Rational ClearQuest record type that you want to use to exchange information with Microsoft Project. For more information, see “Updating the Rational ClearQuest database schema for your project.”

Updating the Rational ClearQuest database schema for your project

Two Rational ClearQuest packages must be applied to the Rational ClearQuest database schema that is used for your project. These Rational ClearQuest packages must be applied in the following order:

1. AMBaseActivity
2. AMWorkActivitySchedule

For information about the contents of these packages, see “About Rational ClearQuest packages.”

About Rational ClearQuest packages

Rational ClearQuest packages contain definitions of new database fields and related information. When they are applied to the definition of a Rational ClearQuest record type, they add new fields to that record type. The packages define fields, such as Planned Start Date and Actual Work.

You must apply the latest versions of both the AMBaseActivity and AMWorkActivitySchedule packages to each Rational ClearQuest record type that you want to use to exchange information with Microsoft Project. To apply these packages, use the Rational ClearQuest Package wizard in the Rational ClearQuest Designer application.

For more information about Rational ClearQuest packages, see the *IBM Rational ClearQuest MultiSite Administrator's Guide* and to the Help for Rational ClearQuest Designer.

Table 1 describes AMBaseActivity and AMWorkActivitySchedule packages.

Table 1. Rational ClearQuest package descriptions

Package	Description	Record types added/modified	Fields
AMBaseActivity	Provides additional support for Project Tracker.	Adds the Main tab to the enabled record type.	Fields added to enabled record type: <ul style="list-style-type: none"> • Headline • Owner • Description
AMWorkActivitySchedule	<ul style="list-style-type: none"> • Provides scheduling attributes needed to integrate Rational ClearQuest and Microsoft Project. • With the AMWorkActivitySchedule record type family, you can query records being created and updated with Project Tracker. 	<ul style="list-style-type: none"> • Defines and adds the AMSchedule record type family to the enabled schema. • Record types enabled with this package are added to this record type family. • Adds the Schedule tab to the enabled record type. 	Fields added to enabled AM Schedule record type: <ul style="list-style-type: none"> • am_planned_start_date • am_planned_end_date • am_actual_start_date • am_actual_end_date • am_planned_work • am_planned_rem_work • am_planned_duration • am_planned_rem_duration • am_actual_work <p>Note: You must use both the date and time portion of the datetime fields. Microsoft Project uses both portions for these fields, and sets the default start time to the starting time of your day in the project and sets the end time to the end of your day in your project. Rational ClearQuest however, bases a day on a noon to noon time. This conflict can result in unpredictable behavior when synchronizing between the two.</p>

Migrating data from an earlier version of Project Tracker

You can migrate Project Tracker data to this version of the product. When you open a project plan and modify it by using new features, you are prompted to migrate to the current version.

To migrate the data:

1. Make a backup copy of the plan to be migrated.

2. Open a project plan.
3. Modify the project plan. You are prompted to decide whether to convert the project plan.
 - If you click **No**, your changes are lost and the data is not migrated. You need to modify the project plan with the older version of Project Tracker.
 - If you click **Yes**, the Assign Custom Fields window opens. Select two more Custom fields in the Microsoft Project plan to store data related to Rational ClearQuest.
4. Click **OK**.

Upgrading from a previous release of Project Tracker

To upgrade from a previous release of Project Tracker:

1. Click **Start > Run**.
2. To upgrade from Project Tracker Version 2003.06.14 (or earlier) to either Version 2003.06.15 or Version 7.0:
 - At the Run prompt, unregister the old Project Tracker DLL by entering:
`regsvr32 /u CQMSPInt.dll`
 - Then rename or delete the CQMSPInt.dll file. (If you installed a Beta version, you can remove IBM Rational Project Tracker with Add/Remove Programs in the Control Panel.)
3. To upgrade from Project Tracker Version 2003.06.15 to Version 7.0:
 - Use `regasm /unregister cqmspint.dll` (instead of `regsvr32 /u CQMSPInt.dll`)

Chapter 3. Linking a project plan to a Rational ClearQuest database

After the installation is complete, you or the project manager responsible for each project plan must link a Microsoft Project plan with a Rational ClearQuest database. The linking process involves the following tasks:

1. Configure each project plan with information about Rational ClearQuest. This information includes which Rational ClearQuest database to exchange data with and which Microsoft Project fields to use to store Rational ClearQuest related data.
2. Configure the view inside Microsoft Project to display Rational ClearQuest related data.

After the link is established, Project Tracker exchanges information between the project plan and the Rational ClearQuest database. You can link a project plan to only one Rational ClearQuest database. After a link is made, it cannot be removed.

You might want to work with the Rational ClearQuest administrator the first time you establish these links, to ensure that the prerequisites are met and that everything is working properly.

Selecting the Rational ClearQuest database and choosing custom fields

When linking a Microsoft Project project plan with a Rational ClearQuest database, the first step is to open your project plan and select the correct database. Then select fields to store Rational ClearQuest data.

To select a Rational ClearQuest database:

1. Open the Microsoft Project project plan.
2. Click **Tools > ClearQuest > Administrative Tasks > Link to ClearQuest Database**.
3. In the ClearQuest Login window, log on to the appropriate Rational ClearQuest database. Provide your user name, password, the Rational ClearQuest database name; click **OK**.
4. In the Select Custom Task Fields window, select five Custom fields in the Microsoft Project plan in which to store data related to Rational ClearQuest. Each Text field is defined, by default, as Text 1, Text 2, Text 3, Text 4, Text 5.
5. Project Tracker directs you to add two columns to your Microsoft project plan: : Text 1 (**CQ Record ID**) and Text 2 (**CQ Record Type**).

Note: The Microsoft Project column definition window contains three other field names in the list: (CQ Integration Data, CQ Integration Data 2, and CQ Integration Data 3). Do not add insert these three columns into the project. They contain internal data to support the Rational ClearQuest to Project integration and they should not be modified.

6. Click **OK**.

Configure your view in Microsoft Project to display Rational ClearQuest related data

After selecting the Microsoft Project fields, you are prompted to add columns to your Microsoft Project view. This is a standard Microsoft Project operation, described in the Help for Microsoft Project. Use these instructions to add a column for the CQ Record ID and the CQ Record Type.

Mapping the Rational ClearQuest Username field to the Project Resource field

After you add columns to the project plan, the Rational ClearQuest owner field is automatically mapped to the Resources Names field in Microsoft Project.

The same person (or role) assigned to a task in the project plan must be assigned to the linked Rational ClearQuest database record. Note that if multiple resources are listed in the Resource Names field in Microsoft Project, Rational ClearQuest considers the first resource in the list to be the owner.

To ensure correct assignments, a resource in the Project Resource field in Microsoft Project must be linked to a user in the Username field of the database record. Valid resource names for the project must be mapped to valid user names for the Rational ClearQuest database.

When you run an import, export, or synchronize function, Project Tracker verifies that the first entry in the Resource Names field in Microsoft Project is the same as the entry in the owner field in Rational ClearQuest. If the entries are different, Project Tracker checks whether they were previously mapped to each other. If they were not mapped to each other, Project Tracker prompts you to take one of the following actions:

- Associate the resource name with a valid user name
- Associate the user name with a valid resource name
- Create a new resource name to be mapped to the user name
- Cancel the Synchronize function

Updating the Rational ClearQuest record types

Before you can exchange data between Rational ClearQuest and Microsoft Project, you must determine which Rational ClearQuest record types are available.

To see the record types, click **Tools > ClearQuest > Administrative Tasks > Update the ClearQuest Record Types List** and click **OK**.

An accurate list of values available for the **CQ Record Type** field in Microsoft Project is displayed. A record type is available if the appropriate Rational ClearQuest packages are applied to it. The value of this field controls the type of Rational ClearQuest record created for each Microsoft Project task.

Chapter 4. Setting up field mappings

This chapter describes how to create and maintain mappings between Rational ClearQuest and Microsoft Project task fields.

Project Tracker uses two kinds of mappings: automatic and optional.

Automatic fields are mapped from Rational ClearQuest and cannot be changed. However, you can change the precedence settings for automatic fields. Automatic fields include various scheduling fields that Rational ClearQuest packages add.

Optional fields are those fields used for your project. You can map any Rational ClearQuest field to a field in Microsoft Project that has the appropriate data type. Optional field mappings apply to all record types that Project Tracker imports to and exports from Microsoft Project.

Supported data types

Table 2 lists the Microsoft Project data types that map to Project Tracker data types.

Table 2. Data types

Microsoft Project	Rational ClearQuest
Currency	Short string or Integer
Date	Date
Duration	Short string
Earned Value	Integer
Enumerated	Integer or Short string
Indicator	Multiline_string
Integer	Integer
Percentage and Number	Integer
Text	Short string
Yes/No	Multiline_string

Using mapping configurations

You can create specific field mappings from Rational ClearQuest to Microsoft Projects for each record type. These fields do not have to appear in all record types. For example, you can map the overtime field in the task record type, but do not have to add and map this field in the defect record type.

Attention: When you plan your mapping configurations, make sure the data type for the field in Microsoft Project is supported in Rational ClearQuest. If Rational ClearQuest does not support the data type, or if the data types do not match, you cannot synchronize the information. In this situation, Project Tracker does not display a warning or error message.

To open the mapping configuration window, click **Tools > ClearQuest > Administrative Tasks > Mapping Configuration**. Use this window to perform these tasks:

- Create task field mappings.
- Change precedence settings to resolve conflict in the Synchronize process. For more information, see “Rules for resolving conflicting information” on page 25.
- Delete mappings.
- Enable parent/child mapping. Parent/child mapping preserves this relationship among Rational ClearQuest records or a summary task/subtask relationship among Microsoft Project plan tasks when exporting new tasks or importing new records.

Note: Do not modify the Rational ClearQuest Record ID field or the Rational ClearQuest Record Type field. Even though these fields can be mapped and are able to be edited, you should not modify these fields because data corruption or unpredictable behavior between Rational ClearQuest and Microsoft Project can occur.

Creating task field mappings

This section explains how to map an existing Rational ClearQuest field to a Microsoft Project field. For information about creating Rational ClearQuest fields, see the *IBM Rational ClearQuest MultiSite Administrator's Guide* or consult your Rational ClearQuest administrator.

Note: You cannot map a field from Microsoft Project to Rational ClearQuest by adding a field to Microsoft Project and synchronizing the information. The following procedure is the only method for adding fields to Rational ClearQuest record types.

1. To add a task field mapping, click **Tools > ClearQuest > Administrative Tasks > Mapping Configuration**.
2. In the Mapping Configuration window, select a record type.
3. Click **Add**.
The Add Task Field Mapping window lists all Rational ClearQuest fields that can be mapped to your Microsoft Project Plan. It also presents precedence settings, which are used to resolve conflicts during synchronization.
4. Select a Rational ClearQuest field to map. The Add Task Field Mapping window displays the Microsoft Project fields that can be used with the Rational ClearQuest field data type and for which a valid mapping can be made. Select a Project field.
5. Select a precedence setting and click **OK**.
6. The new mapping is displayed on the **Task Field Mapping** page. Click **Close**.
7. Add a new column to your Microsoft Project plan for the new project field for which you have just created a mapping.

You must synchronize your Microsoft Project plan and Rational ClearQuest database before you can transfer data between the new project field and Rational ClearQuest records.

Deleting mappings

To remove a mapping between fields in Microsoft Project and a Rational ClearQuest database:

1. Click **Tools > ClearQuest > Administrative Tasks > Mapping Configuration** to open the Mapping Configuration window.
2. On the **Task Field Mapping** page, select the row that contains the field names you want to work with.
3. Click **Delete**. You are prompted to verify your action. Click **Yes**.
4. In the Mapping Configuration window, click **Close**.
5. In Microsoft Project, remove or hide the column for the field whose mapping you have just deleted.

The new settings are in effect the next time you use the Synchronize command.

Enabling parent/child mapping

When parent/child mapping is enabled, these relationships among Rational ClearQuest records are preserved as summary task/subtasks relationships among Microsoft Project tasks. Before you follow the procedure in this section, use the Rational ClearQuest Designer to add new reference fields. These parent reference fields must be created for all record types to which the packages were applied and they must have the same name (as well as their children reference list). For instructions, see the "Adding a new field" and "Using fields to link records" in the chapter about customizing schemas in the *IBM Rational ClearQuest MultiSite Administrator's Guide*.

1. Click **Tools > ClearQuest > Administrative Tasks > Mapping Configurations**.
2. On the **Parent/Child Mapping** page, select one of the reference fields that you added by using the Rational ClearQuest Designer in the **ClearQuest Parent Reference Field**.
3. Select the **Enable Parent/Child Field Mapping** check box.
4. In the Mapping Configuration window, click **Close**.

The new settings are in effect the next time you use the Synchronize function.

Note: These are the only reference fields that you can map with Project Tracker. You cannot manually map reference fields.

Chapter 5. Importing records from Rational ClearQuest

This chapter explains how to import records from a Rational ClearQuest database to create new tasks in a project plan.

The Import function uses new Rational ClearQuest records to create Microsoft Project tasks; the Update function works with records and tasks that were already linked.

Importing records from a Rational ClearQuest database

When you import records, you can create a new project plan by building on the information available in a Rational ClearQuest database. You can also add new tasks to an existing project plan.

To create new project plan tasks from Rational ClearQuest records:

1. Open the project plan.
2. Click **Tools > ClearQuest > Import New Records from ClearQuest**.
In Select Records to Import window, you can select an existing query for the Rational ClearQuest database or create a new query (See “Creating and using queries for imports” on page 17). When you run a query, Project Tracker displays the results from the ClearQuest database.
3. Click **Run** to run the query in the Rational ClearQuest database.
4. (Optional) To review a particular record before importing it, you can open the record forms stored in the Rational ClearQuest database. Double-click the record in the Select Records to Import window. Close the window to continue importing.
5. Select the records you want to import and click **OK**.
The Import New ClearQuest Records To MS Project Plan Tasks window opens, and you can start the import process.
6. Click **Start**.
The tasks are listed while they are being created as the records are copied from the Rational ClearQuest database. The Progress window lists the ID and name of each record being imported. To return to your project plan, click **Close** when you are finished importing.

Note: If your Rational ClearQuest database contains a custom stateful record type that you wish to have imported into Microsoft Project, use the **Select Records to Import into Microsoft Project from the Import New Records From ClearQuest** menu. First, edit an existing query or create a new query and add a filter on record type. Then select all record types that you wish to import for the filter. You may also want to add record_type as a display field so that you know the record type when you import.

Matching resources with Rational ClearQuest users

During the import process, Project Tracker checks each Rational ClearQuest record to verify that the entry in the Owner field (sometimes called the Rational ClearQuest user field) matches a Resource name in the project plan. If Project Tracker encounters an Owner name that is not used in the project plan, it interrupts the import process and opens the Select Resource Matching ClearQuest User window.

- If you see a Resource name in Microsoft Project that is equivalent to the Owner field in the linked Rational ClearQuest record, select that name from the list and click **Change Resource Name**.

The import function cannot change the value in the Rational ClearQuest database. At the end of the process, the Owner field in the database record and the Resource name field in the project plan task must have the same entry.

Project Tracker also changes the Resource name in the list of valid Resource names in the Microsoft Project Resource Sheet and the Microsoft Project Assign Resources window (click **Tools > Assign Resources**). To find the Resource Sheet, use the Microsoft Project Help.

- If you do not see a matching resource name, select **Create Resource**. Project Tracker fills in the **Resource name** field in the project plan task with the entry that is in the Owner field of the Rational ClearQuest Record. Project Tracker also adds the new entry to the list of Resource names used in the project plan.
- If you click **Create All Resources**, Project Tracker fills in the Resource name field in the project plan task with the entry in the Owner field for all Rational ClearQuest database records that are being imported. Project Tracker does not open the “Select Resource matching Rational ClearQuest user” window again during that import process.

Saving and viewing the log file

As Project Tracker imports the Rational ClearQuest records, it creates a progress log listing each record and the value of each field that is transferred.

You can save the log as a rich text format (.rtf) file and review it to verify that all of the information that was imported is appropriate and in the correct format for your project plan. You can open the saved file in any text editor or word processor.

It is also a good practice to keep all log files in a separate folder in case questions arise about tasks created by the import process.

To save and read the progress log file, click **Save Log** in the Import New Records from ClearQuest window and specify the path name.

Viewing new tasks in the Microsoft Project plan

As it imports the records selected by the query into the project plan, it creates new project tasks. Information from the following Rational ClearQuest fields is copied to create a corresponding project plan task:

- Task Name/Headline
- Assigned Resource
- Actual Work
- Planned Work
- Remaining Work

- Actual Start Date
- Actual Finish Date

When the Rational ClearQuest records are converted, the newly created tasks appear at the end of the project plan. You can reposition the new tasks in the project plan, as long as they remain nonsummary tasks.

The new tasks include a CQ Type value. This value describes the type of record that was imported as defined in Rational ClearQuest, for example, Defect or Enhancement.

The project plan now includes the new tasks imported from the Rational ClearQuest database.

Creating and using queries for imports

A query is a request to retrieve database records that meet the criteria specified, for example, all records of a certain type or all records whose value in a field equals or exceeds a specified value, or all records created after a certain time.

You can run existing personal and public queries, modify and run an existing query, and use the ClearQuest Query wizard to create and run a new query.

The queries that Project Tracker uses are identical to Rational ClearQuest queries; existing queries might have been created with Rational ClearQuest. If you do not know how to create and use database queries, see the *IBM Rational ClearQuest Introduction*. For more information about running a query, see the Help in Rational ClearQuest.

To open a Rational ClearQuest query window, click **Tools > ClearQuest > Import New Records from ClearQuest**.

In the Workspace section at the top of the window, you can select a personal or public query.

After you select a query, click **Run**. If you want to see the criteria used to create the query before you run it, click **Edit**.

Note: For records to be inserted into Project Tracker for any record type other than defect, create a query to retrieve these records from within Rational ClearQuest. You cannot create a new query to retrieve any record type other than defect using the Project Tracker integration.

Saving a master copy of the project plan

Keep a secure master copy of the last official version of the Microsoft Project project plan. Always use this master copy for all Project Tracker functions.

In some situations, you might want to distribute several copies of the project plan. However, you cannot safely export records from each copy to the Rational ClearQuest database, because changes in one copy of the project plan might conflict with changes in another version. The project manager must be responsible for integrating changes from all sources into the master copy of the project plan and using this master copy to export to the Rational ClearQuest database.

Chapter 6. Exporting tasks from Microsoft Project

This chapter explains how to export tasks from a project plan to create new records in a Rational ClearQuest database. It also describes how to save and review log files created during the export process.

Rational ClearQuest record types and required fields

When you export project plan tasks to create new database records, select a Rational ClearQuest record type for each new record.

Depending on the record type selected, you might need to enter values in additional required fields for that record type. For example, if you are exporting a task and select Enhancement Request as the CQ Record Type, enter a customer name and a customer priority for that record. To enter the information, use the submit forms.

Team members who work with Rational ClearQuest use the CQ record type and its required fields to find and analyze records in the database. For example, a manager might want to create a report of all recent enhancement requests and sort them by priority. This option is possible only if, during the export process, you identified tasks that represent enhancement request as EnhancementRequest record types and make an entry (High, Medium, or Low) in the Customer Priority field.

Exporting tasks to Rational ClearQuest

Tasks from a project plan can be exported from Microsoft Project to create new records in the database.

To export tasks to the Rational ClearQuest database:

1. Open the project plan.
2. In the CQ Type field for a particular task, select a valid record type from the list. Repeat this for each task you want to export.
3. Click **Tools > ClearQuest > Export New Tasks To ClearQuest**.
4. In the Export New Tasks to ClearQuest window, click **Start**.
5. If any fields are required for any of the record types that you are exporting, Project Tracker prompts you to add data to the new record being created.
 - If you click **No**, the task is not exported to the Rational ClearQuest database (although it remains in the project plan).
 - If you click **Yes**, Project Tracker displays the forms used in Rational ClearQuest to submit and modify data for that record type.
6. On the Rational ClearQuest forms, click each page that displays a red square, and make an entry in each required field (highlighted in red). You can also enter information in the other fields on these forms. After you complete the required fields for all tasks being exported, Project Tracker begins the export process and displays the name of each exported task in the Progress window.
7. Click **OK** to save the changes to the database and to your project plan.
8. Select the **Show all logged information** check box at any time to see full details about an exported task and its values. The Progress window displays information about each field in each exported task, including the value of the

field. When the check box is cleared, the Export New Tasks To ClearQuest window displays only the name of the task being copied to the database. When the export process is complete, click **OK** to make the changes permanent in the database.

9. During the export process, Project Tracker checks each project plan task to verify that the entry in the **Resource name** field matches one of the **Owner** field entries already in use in the database (the **Owner** field is also called the user field).

If it encounters a Resource name in a project plan task that is not in use in the database, Project Tracker opens the Select Matching ClearQuest User window.

- If you see an Owner name that is equivalent to the **Resource** field in the linked project plan task, select that name from the list and click **OK**. Project Tracker copies the entry in the **Owner** field of the database record and replaces it into the **Resource name** field of the project plan task.
 - If you do not see a matching user name, click **Cancel**. Contact your Rational ClearQuest administrator to create the correct user name in the database.
10. When you return to the Exporting New Tasks to ClearQuest window, click **Save Log**, to save the information in a rich text format (.rtf) file (see “Saving and viewing the log file” on page 25).
 11. Click **Close** when exporting is complete. The task you exported includes a unique Rational ClearQuest Record ID.

Saving a master copy of the project plan

Keep a secure master copy of the last official version of the Microsoft Project project plan and always use this master copy for all Project Tracker functions.

The project manager must be responsible for integrating changes from all sources into the master copy of the project plan and for using this master copy to export data to the Rational ClearQuest database. Multiple project managers may want to change copies of the project plan. However, these managers cannot safely export records from each copy to the Rational ClearQuest database, because changes in one copy of the project plan might conflict with changes in another version.

Viewing new records in the database

Project Tracker creates a new Rational ClearQuest record for each task and transfers the following fields from the Microsoft Project task to the record:

- Task Name
- Planned Start Date
- Planned Finish Date
- Planned Work
- Actual Work
- Remaining Work
- Actual Start Date
- Actual Finish Date
- Assigned Resource

When the export process is complete, the new records are listed in the database.

The planned start and end dates from the project plan task appear on the **Schedule** page for this record. These dates are the responsibility of the project manager who creates the project plan.

Assigning resources

Microsoft Project allows several resources to be assigned to a task, but Rational ClearQuest allows only one resource to be assigned. If more than one resource is listed in the project plan task, Project Tracker carries over only the first one.

Summary tasks, milestones, or only filtered rows are not exported

Project Tracker does not export Microsoft Project summary tasks, milestones, or only filtered rows. A summary task is a collection of detail tasks that is used to summarize a phase of a project, but does not involve work independent of the tasks that it summarizes. A milestone marks a significant event or deadline, but it has neither work nor duration associated with it. Project Tracker creates database records for detail tasks, but not for summary tasks or milestones.

Microsoft Project filters do not affect the rows exported to Rational ClearQuest. When a filter is applied and the rows displayed in Microsoft Project are limited, all the rows (and not just the filtered rows) are exported to Rational ClearQuest.

Changing field values by owners

After a task is exported to Rational ClearQuest, some, but not all, fields in the resulting record can be modified by the record owner.

The owner is the team member responsible for performing the task. The fields that can be modified are those for which the team member is likely to have correct information, such as the actual start date and the remaining work. The fields that cannot be modified are those for which the project manager is most likely to have correct information, such as the planned start and end date.

Entering required fields when the task has no entry

When the field in a task is blank and corresponds to a required field in the database record, Project Tracker prompts you for an entry. When you make an entry, that value is included in the database record, but the field in the project plan task is still blank. When this situation occurs, run the synchronize function to ensure that the task and the record have the same value.

Chapter 7. Synchronizing data

This chapter explains how to update project plan tasks with information from Rational ClearQuest database records and how to save and view the log files. It describes the basic steps for a bidirectional synchronization of the project plan and the Rational ClearQuest database.

The chapter also describes the rules that are used to resolve conflicts that arise during synchronization.

Synchronizing Microsoft Project plans and ClearQuest databases

To update your project plan or Rational ClearQuest database, click **Tools > ClearQuest > Synchronize Plan with ClearQuest**. Three options are available:

- Synchronize ClearQuest and Project
- Update Project from ClearQuest
- Update ClearQuest from Project

The default option is Synchronize ClearQuest and Project. It is a two-way transfer of information; updates flow from the Rational ClearQuest database to the project plan, and then from the project plan to the Rational ClearQuest database. When the transfer is complete, the linked records and tasks contain the same information.

Use this function with caution, because it changes both the Rational ClearQuest database and the project plan. After the changes are saved to the Rational ClearQuest database, you need the help of the Rational ClearQuest administrator to make any corrections.

The Update Project from ClearQuest option updates all mapped fields within Microsoft Project from Rational ClearQuest. No changes are propagated from Microsoft Project to Rational ClearQuest.

The Update ClearQuest from Project option updates Rational ClearQuest records with information from Microsoft Project.

Synchronizing the project plan with the database

During a project, you often update the project plan to respond to changes in requirements, priorities, and resources. You can use the **Synchronize Plan with ClearQuest** command to convey these changes to members through Project Tracker. The command does not add records to Rational ClearQuest nor does it remove records from the Microsoft Project plan or Rational ClearQuest. You must use the import function to add records. To remove records, you must delete them manually.

For example, if revising the project plan changes the Planned Start Date and Planned End Date for some tasks, the synchronize function copies those changes to the appropriate records in the Rational ClearQuest database. When team members next run a To Do List query on the Rational ClearQuest database, they see a list of tasks that are scheduled for the future, and the records for those tasks include the updated planning dates.

Project Tracker first pulls information from linked Rational ClearQuest database records in order to update the following values in the project plan tasks:

- Task Name/Headline
- Assigned Resource
- Actual Work
- Planned Work
- Remaining Work
- Actual Start Date
- Actual Finish Date

Project Tracker uses information from the following values in the project plan task and to update the linked Rational ClearQuest database records:

- Task Name/Headline
- Assigned Resource
- Planned Start Date
- Planned Finish Date
- Planned Work
- Remaining Work
- Planned Duration
- Remaining Duration
- Actual Work
- Actual Start Date
- Actual Finish Date

Note that Microsoft Project filters do not affect the rows synchronized to Rational ClearQuest. When a filter is applied and the rows displayed in Microsoft Project are limited, all the rows (and not just the filtered rows) are synchronized to Rational ClearQuest.

Note also that if a task in Microsoft Project contains a field with data larger than can be contained within the associated Rational ClearQuest field, that task will not be synchronized. An error message will display listing the problem.

Synchronizing linked tasks and records

To synchronize the Rational ClearQuest database and the Microsoft Project plan:

1. Open the project plan.
2. Click **Tools > ClearQuest > Synchronize Plan With ClearQuest**.
3. Select **Synchronize ClearQuest and Project**.
4. (Optional) To display details about the changed values, select the **Show all logged information** check box
5. Click **Start**. As each task is synchronized, you see the log transactions that are created.

Matching resources with Rational ClearQuest users

During the synchronize process, Project Tracker twice compares entries in the **Owner** field of Rational ClearQuest database records with the corresponding entries in the **Resource name** field of the linked Microsoft Project plan tasks to verify that they are the same. This comparison happens first when the synchronize

function extracts modified database records to update project plan tasks, and again when the function selects modified project tasks to update database records.

If Project Tracker encounters an **Owner** name in a Rational ClearQuest record that is not in use in the project plan, it interrupts the synchronize function and opens the Select Resource matching ClearQuest user window. For more information, see “Matching resources with Rational ClearQuest users” on page 16

Saving and viewing the log file

After the synchronize process is complete, Project Tracker prompts you to save changes. Because the changes to the Rational ClearQuest database are already committed, save the changes to the project plan. Saving the changes ensures that information shared between the Rational ClearQuest database and the project plan remains consistent.

1. Click **OK** to save the project plan.
2. In the Planning Wizard window, specify whether to save the project plan with or without a baseline and click **Save**.
3. In the Synchronize Plan With ClearQuest window, click **Save Log** to save the log in rich text format (.rtf) file. You can open the saved file using any type of text editor or word processor.
4. Click **Close** when you are finished.

Rules for resolving conflicting information

Sometimes conflicting information is encountered when synchronizing the project plan with the Rational ClearQuest database because data is changed independently in the two systems. For example, the project manager might change the start date for a task in Microsoft Project, and the team member responsible for that task might enter a different date in the Rational ClearQuest database.

To solve this problem, you can apply a set of synchronization rules for each corresponding Rational ClearQuest and Project field. You set these rules on the **Task Field Mapping** page or in the Mapping Configuration window.

Setting synchronization precedence

To specify a precedence order for resolving conflicts between information in Rational ClearQuest and information in Microsoft Project:

1. Open the project plan.
2. Click **Tools > ClearQuest > Administrative Tasks > Mapping Configuration**.
3. In the Mapping Configuration window, click the **Task Field Mapping** tab.
4. Highlight the field you want to work with and click **Edit**.
5. In the Edit Field Mapping window, select the preferred conflict resolution behavior and click **OK**.

Overriding the synchronization rules

In some cases, you might want to override the synchronization rules. To do this, view the log of the tasks that were updated or synchronized (see “Saving and viewing the log file” on page 25), and manually update the tasks and records by using Microsoft Project and Rational ClearQuest.

Chapter 8. Additional administrative procedures

This chapter describes administrative procedures that you may need to ensure data is correctly synchronized between the project plan and the Rational ClearQuest database. It also provides additional information that you can use for troubleshooting.

Changing required fields in Rational ClearQuest

If the Rational ClearQuest administrator changes the Rational ClearQuest database schema to add new required fields or make existing fields required, the administrator must work closely with the project manager to ensure that every task in the Microsoft Project project plan has an entry in this field.

If one task in the Microsoft Project project plan does not have an entry in the newly created required field, that task cannot be exported or synchronized. Project Tracker displays an error message and fails to export or synchronize that task.

Nesting project plans

After a project plan is linked to a Rational ClearQuest database, it is not possible to nest other project plans in the linked plan. If you try to do so, running the synchronize function causes runtime errors and unpredictable behavior.

Instead of nesting a project in the linked project, enter the new tasks into your linked project.

Task name truncated when transferred

The Rational ClearQuest Headline field can contain up to 125 characters. If you export a project plan task whose Task Name exceeds 125 characters, only the first 125 are transferred to the Headline field of the Rational ClearQuest record. You can see when this occurs in the progress log.

If you use the export function and then the synchronize function, the truncated version might reappear in the project plan Task Name field. During the synchronize process, the truncated version that was transferred to the Headline field in the Rational ClearQuest record is copied back to the project plan Task Name field, overwriting the longer version.

Removing an owner from the Rational ClearQuest database

The Rational ClearQuest administrator can remove names from the list of active users. This list consists of those user names that are valid entries in the Owner field of the Rational ClearQuest database.

However, when a name is removed from the list of active Rational ClearQuest users, it is not removed from the list of users that Project Tracker recognizes during the import, export, and synchronize processes. The Rational ClearQuest administrator must notify every project manager when a Rational ClearQuest user is removed from the active users list. The project manager can then remove the resource name from Project Tracker.

During any of these processes, when Project Tracker finds a Resource name in the project plan that does not match a recognized Rational ClearQuest owner name, it displays a list of recognized Rational ClearQuest users. The list includes the name of the Rational ClearQuest user who was removed from the list of active users. Selecting this user stores the name of someone who no longer works on the project in the Resource name field of the project plan task.

Deleting the actual end date from a Rational ClearQuest record

A Rational ClearQuest user can modify the Actual End Date field in a Rational ClearQuest database record to make it blank. If the Synchronize function is run, that blank is not copied into the Actual Finish Date field in the linked record in the project plan. Instead, whatever date was in the Actual Finish Date field remains there. Microsoft Project does not let Project Tracker copy an empty field to an Actual Finish Date field that already has a value.

To determine whether the Actual End Date field is blank, you or the Rational ClearQuest administrator can run a query of the Rational ClearQuest records.

Using functions together to ensure updated information

The synchronize function works only with tasks that were linked to records during an import or export process. Tasks that do not have a linked record and records that do not have a linked task are ignored.

To ensure that a project plan and a Rational ClearQuest database are fully updated, you might need to use more than one function.

Updating a project plan

If team members have added new records to the Rational ClearQuest database, transfer those records to the project plan as new tasks. Any records that were added since the last time that the import function ran are ignored because they are not yet linked to project plan tasks.

To ensure that both new and modified records in the Rational ClearQuest database are reflected in the project plan, you might need to use the import function to transfer the new records, and then use the synchronize function to capture changed information from existing records.

Updating a Rational ClearQuest database

If the project manager added new tasks to the Microsoft Project plan, transfer tasks to the Rational ClearQuest database as new records.

To ensure that both new and modified tasks are reflected in the Rational ClearQuest database, use the export function to transfer the new tasks, and then use the synchronize function to capture changed information from existing tasks.

Updating the Rational ClearQuest record types list

During a project, the Rational ClearQuest systems administrator might add new record types to the Rational ClearQuest database and remove obsolete ones. If this happens, use the Update ClearQuest Record Types List command. When you use this command, Project Tracker updates the ClearQuest Record Types List for that project plan to include new valid record types. Alternatively, you can convert the

record type for a new task to one of the types already on the list. You cannot import the record unless you choose one of these methods.

To update the list, click **Tools > ClearQuest > Administrative Tasks > Update ClearQuest Record Types List**.

Deleting tasks and records

When you delete a task from the project plan, Project Tracker does not delete the corresponding Rational ClearQuest record. You can leave the Rational ClearQuest record in the database, or you can remove it in Rational ClearQuest. You must track all tasks deleted from the project plan and take the correct action in each case.

The log created by the synchronize function includes a message that indicates when a linked task cannot be found for a Rational ClearQuest database record. To find these messages and verify that the appropriate result was achieved, see the log.

When you delete a record from the Rational ClearQuest database, you can leave the task in the project plan, or you can remove it in Microsoft Project. You must track all records deleted from the Rational ClearQuest database and take the correct action in each case.

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