IBM Rational Synergy for Microsoft Source Code Control Interface PowerBuilder 2.1

User's Guide

Before using this information, be sure to read the general information under Appendix B: "Notices"

This edition applies to **VERSION 2.1**, **IBM Rational Synergy for Microsoft Source Code Control Interface PowerBuilder** (product number 5724V66) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Introduction

The following topics are covered in this section:

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About the IBM Rational Synergy for Microsoft Source Code Control Interface

The IBM Rational Synergy for Microsoft Source Code Control Interface supports PowerBuilder® version 10.5. It allows you to set up and control your PowerBuilder application in the IBM® Rational® Synergy™ repository. The interface provides configuration management support through insulated and build management areas, task-based CM support, and source code control operations on library entries directly from the PowerBuilder. This interface does not work with earlier versions of PowerBuilder.

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Assumptions

Before using this document, you should have a basic understanding of how to use PowerBuilder and IBM Rational Synergy. If you are unfamiliar with PowerBuilder, you should work through the PowerBuilder tutorial.

You should also have a conceptual and practical understanding of IBM Rational Synergy. You should understand task-based CM and be able to perform developer or build manager operations. A tutorial is also available for IBM Rational Synergy.

If you need more information about IBM Rational Synergy, refer to the following documentation, which is available on the IBM Rational Synergy Support web site (`http://www.ibm.com/software/awdtools/synergy/support/`):

- For terms, concepts, and methodology, see *Introduction to IBM Rational Synergy*.
- For information about developer-level operations, refer to the *IBM Rational Synergy Tutorial*.
- For information about build management-level operations, see the *Build Manager's Guide*.
- For a description of IBM Rational Synergy dialogs, commands, and default settings, see the *IBM Rational Synergy Help*.

Read this entire document before using the interface. Knowing all of the features before you integrate your data will help ensure a seamless, efficient integration.

Features

The interface allows you to use the source code control operations from the PowerBuilder 10.5 integrated development environment (IDE).

This release includes the following information about converting or upgrading from previous releases:

- Converting a IBM Rational Synergy for Microsoft Source Code Control Interface running a PowerBuilder version prior to 10.5. This allows you to convert your custom integration project into the SCC multiple project structure. For specific instructions about the conversion process, refer to Appendix A – Conversion Process for PowerBuilder SCC Projects.

How the interface works

PowerBuilder Version 10.5 has a source control interface that uses the Microsoft® Microsoft Source Code Control Interface (MSSCCI) Microsoft Application Programming Interface (MAPI) to request services from SCC provider dynamic link libraries (DLLs).

With PowerBuilder 10.5, there is no need for shared PowerBuilder Source Code Libraries (PBLs) to be on a shared network. All that is required now is a local PBL. The SCC tool is now a repository. The Local Root Directory and SCC Working Folder should be the same.

Version control menu items, such as check in and check out, are built into PowerBuilder's Library Painter and System View. Each requested operation is transacted in the foreground by PowerBuilder; IBM Rational Synergy operates in the background. Additional configuration management operations are available in the **Advanced** dialog box. More advanced operations are available outside of the application programming interface (API) from the IBM Rational Synergy interface.

Audience

The IBM Rational Synergy for Microsoft Source Code Control Interface with PowerBuilder is for PowerBuilder developers and build managers.

Contacting IBM Rational Software Support

If the self-help resources have not provided a resolution to your problem, you can contact IBM® Rational® Software Support for assistance in resolving product issues.

Note: If you are a heritage Telelogic customer, a single reference site for all support resources is located at http://www.ibm.com/software/rational/support/telelogic/

Prerequisites

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage® software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.

- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to http://www.ibm.com/software/support/.

- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting.

    Use the following table to determine the severity level.

Severity	Description
1	The problem has a *critical* business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a *significant* business impact: The program is usable, but it is severely limited.
3	The problem has *some* business impact: The program is usable, but less significant features (not critical to operations) are unavailable.
4	The problem has *minimal* business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information. When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

    - What software versions were you running when the problem occurred?
      To determine the exact product name and version, use the option applicable to you:

        o Start the IBM Installation Manager and select **File** > **View Installed Packages**. Expand a package group and select a package to see the package name and version number.

        o Start your product, and click **Help** > **About** to see the offering name and version number.

    - What is your operating system and version number (including any service packs or patches)?

    - Do you have logs, traces, and messages that are related to the problem symptoms?

    - Can you recreate the problem? If so, what steps do you perform to recreate the problem?

    - Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?

- Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.

3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:

- **Online**: Go to the IBM Rational Software Support Web site at https://www.ibm.com/software/rational/support/ and in the Rational support task navigator, click **Open Service Request**. Select the electronic problem reporting tool, and open a Problem Management Record (PMR), describing the problem accurately in your own words.

  For more information about opening a service request, go to http://www.ibm.com/software/support/help.html

  You can also open an online service request using the IBM Support Assistant. For more information, go to http://www.ibm.com/software/support/isa/faq.html.

- **By phone:** For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at http://www.ibm.com/planetwide/ and click the name of your country or geographic region.

- **Through your IBM Representative:** If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at http://www.ibm.com/planetwide/.

Product requirements

The following products are required to run the IBM Rational Synergy for Microsoft Source Code Control Interface with PowerBuilder:

- PowerBuilder 10.5

- IBM Rational Synergy 7.1 server on UNIX® or Windows®

- IBM Rational Synergy 7.1 client on Windows XP Professional Service Pack 2 or Windows Vista

- IBM Rational Synergy for Microsoft Source Code Control Interface 2.1

Installation instructions

The following sections explain how to install the interface:

- Install and set up PowerBuilder

- Install the interface

- Install PowerBuilder file types

- Verify PowerBuilder file types installation

- Configure PowerBuilder JRE

Install and set up PowerBuilder

This section explains how to install and set up PowerBuilder 10.5.

PowerBuilder 10.5

Install PowerBuilder 10.5. The SCC interface is included by default. Check to be sure that it is selected by clicking **Details** in the **Products Available** page.

Install the interface

To start the installation process:

1. Go to the IBM Rational Synergy Support Web site,
   `http://www.ibm.com/software/awdtools/synergy/` to ensure that you have the latest version of the `setup.exe` file for the IBM Rational Synergy for Microsoft Source Code Control Interface.

   If a newer version of the interface exists, download it from the Support Web site, and then extract it.

   For more information about the Support Web site, see "Contacting IBM Rational Software Support".

2. Double click the `setup.exe` file.

   The **Choose Setup Language** dialog appears.

3. Select the setup language and then click **OK**.

   The **Welcome** dialog appears.

4. Click **Next**.

   The **License Agreement** dialog box appears.

5. Read and accept the terms in the license agreement, and then click **Next**.

    The **Destination Folder** dialog box appears.

6. Verify the installation path, and then, if the path is correct, click **Next**.

    If you need to change the path:

    a) Click **Change**.

        The **Change Current Destination Folder** dialog box appears.

    b) In **Look in**, navigate to and select the correct path, and click **OK** to close the **Change Current Destination Folder** dialog box.

    c) Click **Next**.

        The **Ready to Install the Program** dialog box appears.

7. Click **Install**.

8. When the **Installshield Wizard Completed** dialog box appears, click **Finish**.

9. Start a IBM Rational Synergy session on your production database.

Install PowerBuilder file types

PowerBuilder file types must be installed into each IBM Rational Synergy database. To install these types, you must have *ccm_admin* privileges.

To install PowerBuilder file types:

1. From the command prompt, go to IBM Rational Synergy 7.1 installation `bin` directory.

2. Start the IBM Rational Synergy Classic Client

    `ccm start -n` *host name* `-d` *database path*

3. Set your role to *ccm_admin*.

4. From the command prompt, run the `pbtypes_install.bat` file, which is located by default in `C:\Program Files\IBM\Rational\Synergy for MSSCCI\bin`.

5. After the installation is completed, exit and restart your IBM Rational Synergy session.

Verify PowerBuilder file types installation

After you have installed the PowerBuilder file types, restart your IBM Rational Synergy session and verify that they were properly installed.

1. From the command prompt, go to the IBM Rational Synergy 7.1 installation bin directory.

2. Start the IBM Rational Synergy Classic Client.

   ccm start -n host name -d database path

3. Set your role to *type_developer*.

4. From the main menu, select **Admin** > **Type Definition**.

   The **Type Definition** dialog box appears.

5. Click **Browse Types**.

   The **Type Browser** dialog box appears.

6. Scroll to find the `pb_type` types.

7. Click **OK**.

Configure PowerBuilder JRE

PowerBuilder must be configured to use JRE 1.6 in order to work with IBM Rational Synergy for Microsoft Source Code Control Interface 2.1. Follow these steps to configure:

1. Install JRE 1.6.

2. Rename the existing JRE folder from PowerBuilder under the PowerBuilder installation directory.
   By default, it is `C:\Program Files\Sybase\Shared\PowerBuilder\jdk1.4.2_06\jre`.

   For example, rename

   `C:\Program Files\Sybase\Shared\PowerBuilder\jdk1.4.2_06\jre`

   to

   `C:\Program Files\Sybase\Shared\PowerBuilder\jdk1.4.2_06\jre_org`

3. Replace the JRE with the JRE 1.6 under the PowerBuilder installation directory.
   By default, it is `C:\Program Files\Sybase\Shared\PowerBuilder\jdk1.4.2_06\jre`.

Project setup and data migration

This section describes the initial project setup and data migration, which includes the following steps:

1. Build your application in PowerBuilder

2. Migrate the project to IBM Rational Synergy

3. Rebuild and baseline your project

4. Set up a development project

5. Set up a build management project

6. Releasing a project

Build your application in PowerBuilder

PowerBuilder 10.5 works effectively with source code control if PBL files are placed in their own folders. Place only one PBL file in each folder.

1. Create your Workspace.

2. Inside your Workspace folder, create a subfolder for each PBL file you wish to include in the Workspace.

3. Create or copy PBL files into these folders.
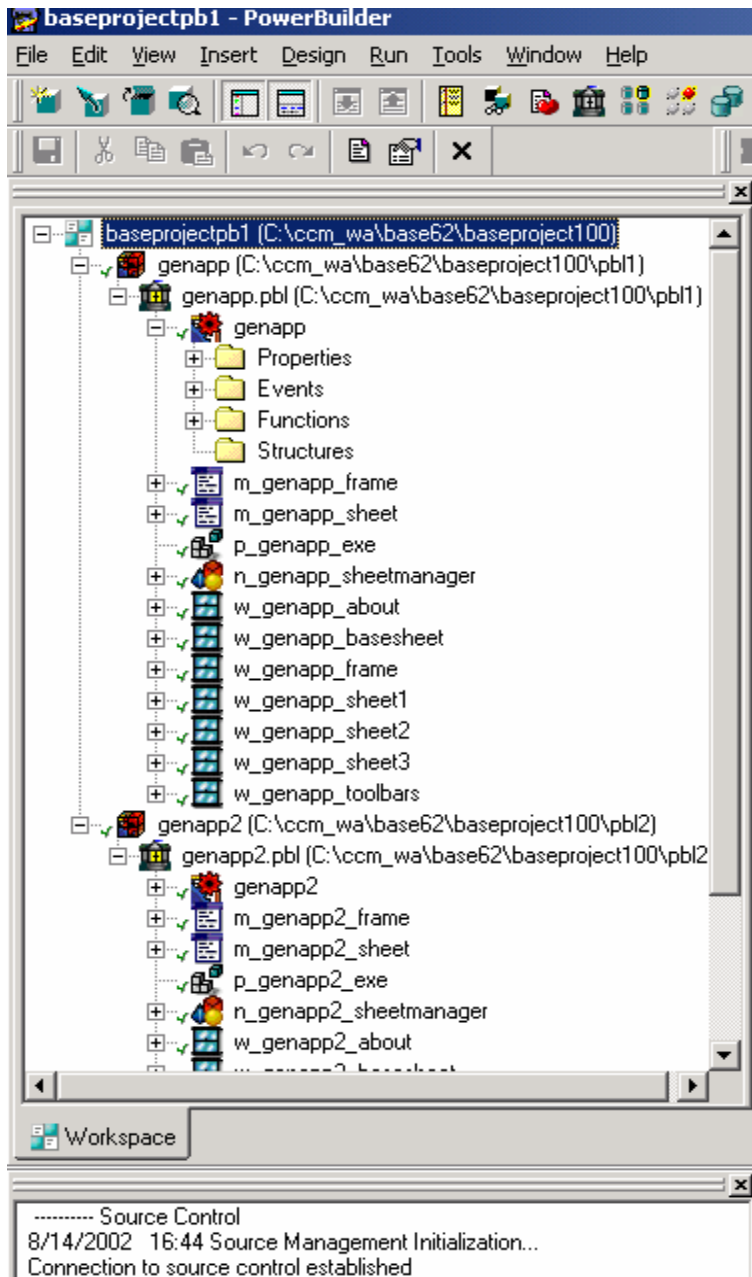
If you want to use PBL files already present in IBM Rational Synergy, first you need to migrate your project. For more information, see Migrate project to IBM Rational Synergy.

4. Once the PBL files have been migrated, open IBM Rational Synergy Classic Client, and open your project.

5. Select the folder that should contain the PBL file.

6. Check out the project, and then select from the menu **Add Object**.

7. In the **Add Object** dialog box, use **Query** to find the required PBL file.

8. Select the file, and then click **Add**.

9. Check out the PBL file even if you do not want to modify it.

    Now you can rebuild your project again.

10. Build your project.

    Build all the executables and DLLs that you wish to control in IBM Rational Synergy.

Migrate the project to IBM Rational Synergy

Before you can use source code control operations on the PowerBuilder project, you or another user (such as the CM administrator or the build manager) must migrate the project into the IBM Rational Synergy database.

1. If PowerBuilder file types are not installed already, install them now.

    Refer to IBM Rational Synergy for Microsoft Source Code Control Interface 2.1 installation instructions.

2. If the project that you want to migrate is open in PowerBuilder, close it.

3. Start a IBM Rational Synergy Classic Client session.

4. From the IBM Rational Synergy Classic Client main menu, select **Tools** > **Migrate**.

    The **Migrate** dialog box appears.

5. Select **Browse** to find the directory where your project is located, and then type the name and version of the project into which you are migrating the PowerBuilder project.

6. In **Project** field, type the project name using the project name, delimiter, and version format. For example, `projname-version`.

7. Select a task.

8. Click **Preview.**

    The **Preview** operation causes all of the files that you are migrating to be evaluated according to the migrate rules. These rules are used by IBM Rational Synergy to assign types to the files and to ignore types of files that should not be migrated. You can add to or change the rules using the **Options** menu **Set** option.

9. If you want to change any of the file types or ignore any of the files that would otherwise be migrated, select them, and then make the changes before performing the next step, which is loading the files.

Note If there are characters in any of the file names that are restricted by IBM Rational Synergy, you will receive a warning message. You should change the file names before performing the load or the files will not be migrated. See the General Usage section of the *IBM Rational Synergy Help* for the list of restricted characters.

10. Select **Work Area Properties** to choose your work area as desired.

11. Click **Load**.

This operation assigns a type to and loads each file listed in the Preview Results into the IBM Rational Synergy database. For more information on the migrate operation, see the *IBM Rational Synergy Help*.

12. Complete the Migration operation, and then select **File** > **Close** when the migrate operation is complete.

Although the data is now in a project, do not check in the project at this time. You will be making several more modifications before your project is ready to become the baseline project.

13. Remove the directory from which you migrated data.

This can lessen confusion later, as the data is located in only once place: the IBM Rational Synergy project in which it has been migrated.

Rebuild and baseline your project

Your project is now in IBM Rational Synergy. Perform the following steps to baseline the project.

1. From IBM Rational Synergy, check out all `PBW`, `PBT`, `PBL`, `EXE` and `DLL` files.

2. Open PowerBuilder, and then open the project workspace.

3. Select the workspace, right click and select **Properties.**

The **Properties of Workspace** dialog box appears.

4. Select the **Source Control** tab.
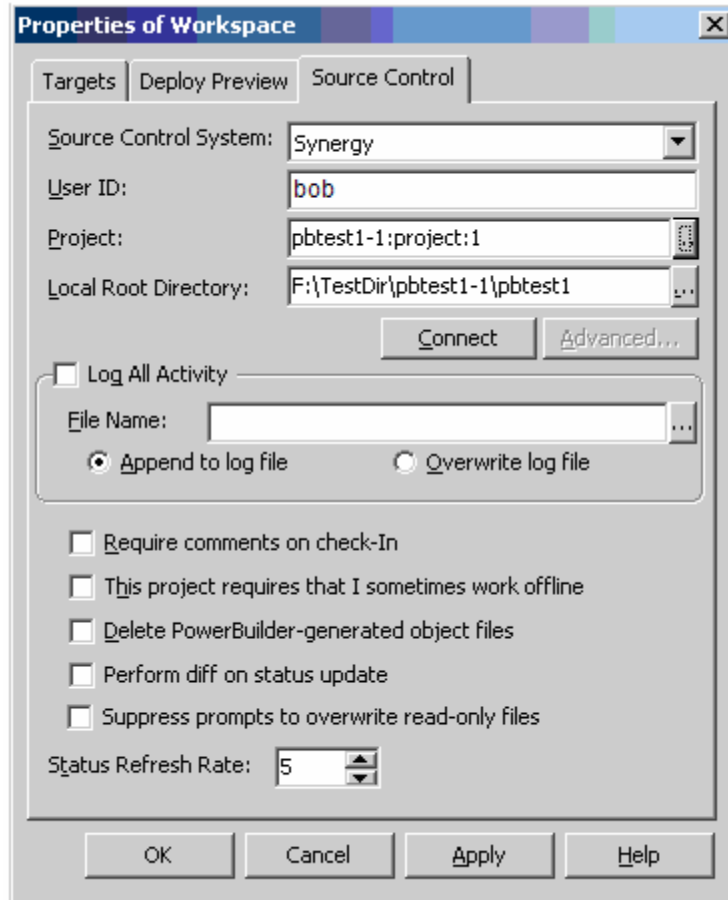
5. Select **Synergy** in the **Source Control System** list.

6. Specify your **User ID** and **Project information**.

7. Click **Connect**.

8. The **IBM Rational Synergy Startup Info** dialog box appears.
    Specify the corresponding information.

9. Click **OK**.

    Now your PowerBuilder project is connected with the IBM Rational Synergy database.

10. Click **OK**.

11. In PowerBuilder, select the workspace, right click and select **Refresh Status.**

12. Select all files from the **Refresh Status** dialog and click **OK**.

    This refreshes the source control status on the workspace.

13. Rebuild your application.

14. Select the workspace, right click and select **Add to Source Control** from the **Workspace** menu.

15. Select all files from the **Add to Source Control** dialog and click **OK**.

This exports all the library entries and adds to IBM Rational Synergy database.

16. Refresh status by selecting **Refresh Status** from the **Workspace** menu.

17. Select the workspace, right click and select **Properties.**

The **Properties of Workspace** dialog box appears

18. Select the **Source Control** tab.

19. Select **Advanced** from the **Properties of Workspace** dialog box.

The **IBM Rational Synergy** dialog box appears.

20. Open the **Task-Based CM** page, and then select **Complete Task** to check in your current task.
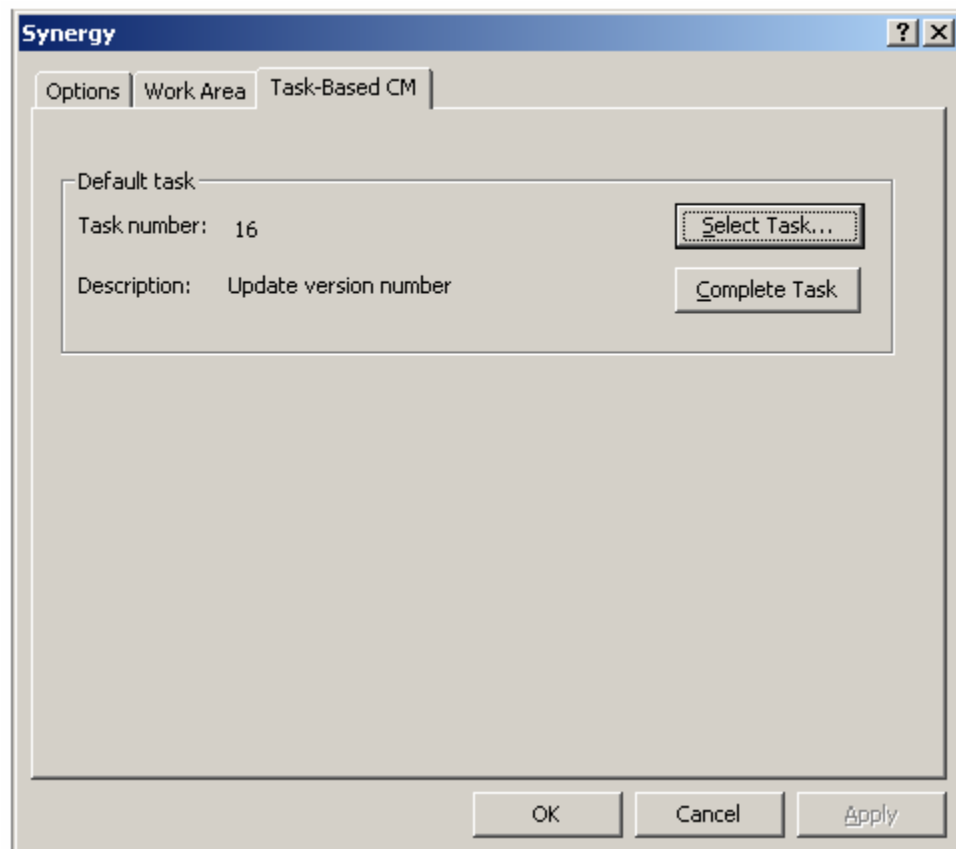
21. After check in task is completed. Click **OK**.

22. Click **OK** to the **Properties of Workspace** dialog.

23. Refresh status by selecting **Refresh Status** from the **Workspace** menu.

Note: Refresh status operation may take a while. Please wait while updating SCC status. See the status bar at the bottom of the PowerBuilder, wait until the status states **Ready**.

24. To baseline the project, you must have the *build manager* or *admin* role. If you do not have either role, make sure all the tasks are completed and all the files in your IBM Rational Synergy project are checked in. Now you can ask your Build Manager or Administrator to baseline your project. Baseline projects are in a *static* state (*released*, *integrate*, etc.).

Setting up a development project

You must have a working project to do a development work. And all the PBW, PBL and PBT files must be checked out prior working. Here are the steps you need to follow to set up a development project:

1. Start IBM Rational Synergy.

2. Open the baseline project, and then copy it.

3. In your working project, check out all PBW, PBT and PBL files and any other files that you wish to modify.

4. Check out all the DLLs and executables that you will modify.

5. Start PowerBuilder, and then open your workspace.

6. Use the **Properties of Workspace** dialog box to connect to IBM Rational Synergy.

Once the connection is established, you are ready to work and perform source control operations on your project.

Adding new targets

If you want to add more PBL files into your workspace, follow these steps:

1. Using IBM Rational Synergy, check out the PowerBuilder Workspace file PBW in your project.

2. Create a folder under the Workspace folder to contain the new PBL file.

3. Create the PBL file, and then build your project.

4. Use **Sync** to modify the database.

You can start this operation by clicking the **Advanced** button in the **Source Control**

page of the **Properties of Workspace** dialog box. This brings your new PBL file and other files into IBM Rational Synergy database.
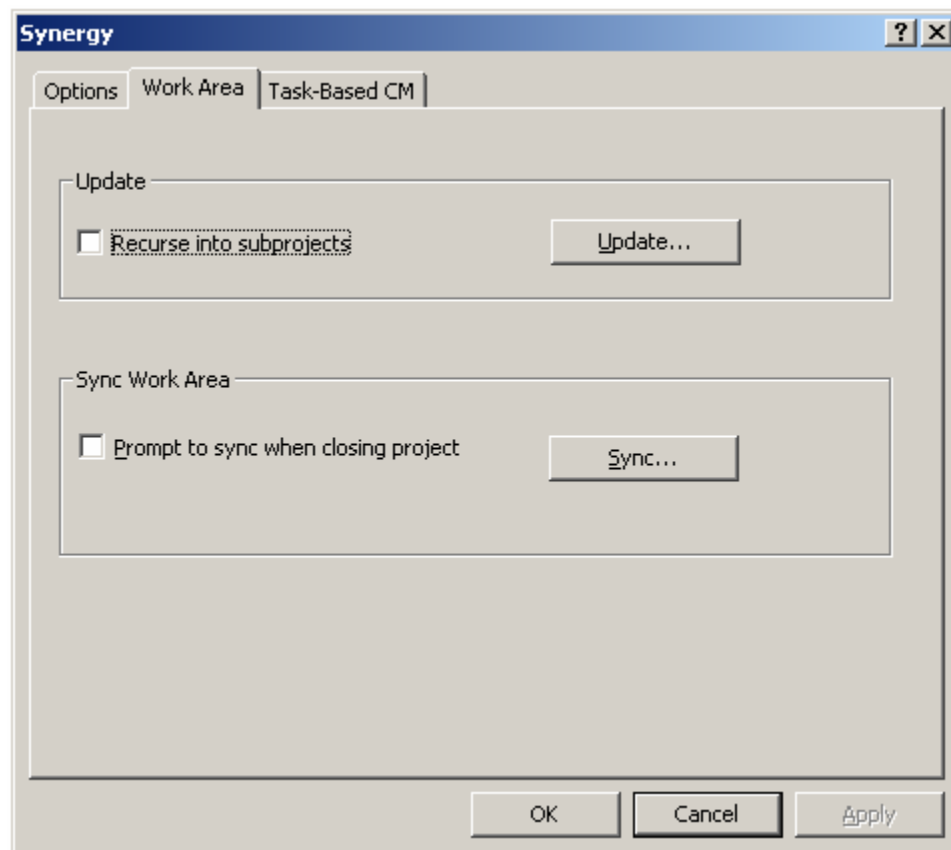
5. Resolve work area conflicts by keep work area changes from the **Work Area Conflicts** dialog box. After sync is completed. Click **OK** and then click **OK** to the to the **Properties of Workspace** dialog box.

6. Select the newly added PBL file, right click and select **Add to Source Control**.

    SCC Add to Source Control dialog box appears.

7. Select option **Select multiple files contained in this target** and click **OK**.

8. Select all files from the **Add to Source Control** dialog and click **OK**.

    This exports all the library entries and adds to IBM Rational Synergy database.

    All the library entries of the newly added PBLs are in IBM Rational Synergy. Now you can check in your task and check out the PBL file using a new task.

Using task-based CM

Whenever you check out a library entry, the check out operation is recorded under your current task. You should have a current task before you check out files. When you are done, you should complete your current task instead of checking in the individual files. To complete a task or to create a task, access the **Properties of Workspace** dialog box, and then click **Advanced**. Then go to the **Task-Based CM** page of the **IBM Rational Synergy** dialog box.
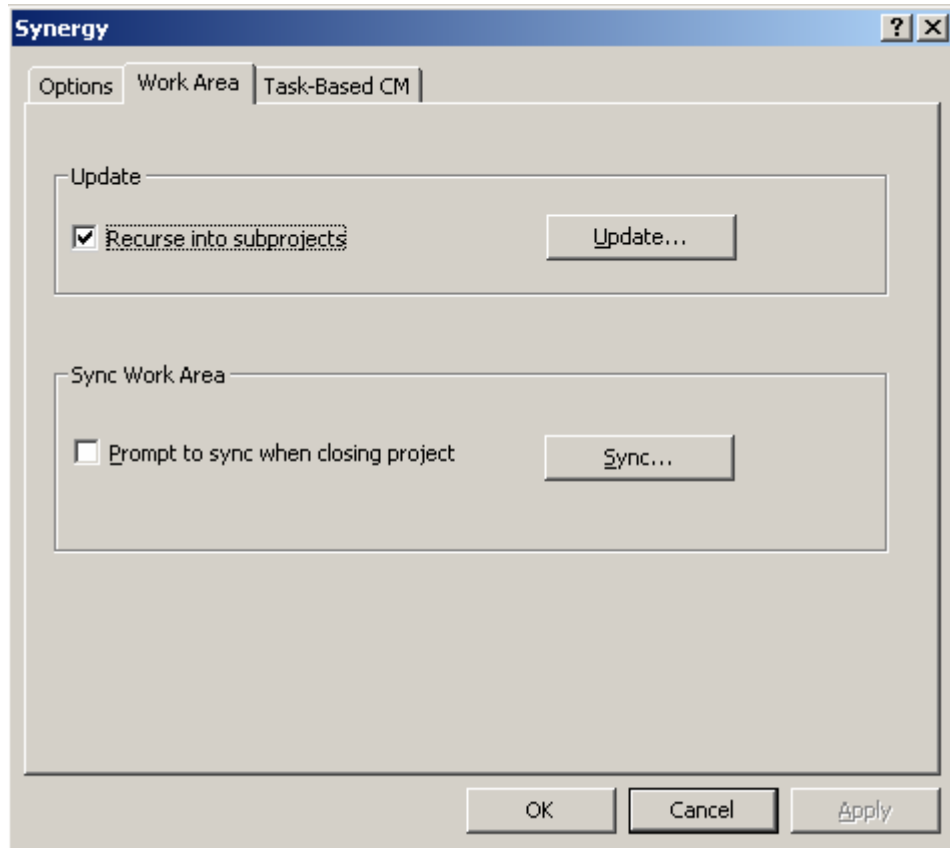
Setting up a build management project

A build management project is typically used for building an application and making it available for testing and validation. With PowerBuilder, you use the Deploy operation to build the executables and DLLs.

Copying a build management project is no different than a development project. The only difference is you copy it while you are in the *build manager* role.

1. Start IBM Rational Synergy.

2. Open the baseline project, and then copy it.

3. In your working project, check out all PBW, PBT and PBL files and any other files that you wish to modify.

4. Also check out all the DLLs and executables that you will modify.

5. Start PowerBuilder, and then open your workspace.

6. Use the **Properties of Workspace** dialog box to connect to IBM Rational Synergy.

7. Update your project.

You can start this operation by clicking the **Advanced** button in the **Source Control** page of the **Properties of Workspace** dialog box. This operation brings into your Workspace changes made by all team members.

Now you are ready to rebuild and deploy the project.

Releasing a project

A build management *prep* project is used to test and build the application. When the project is finished for a particular release, the build manager transitions the project from the *prep* state to the *released* state. This freezes the project so that no further modifications can be made. All PBL files are also checked in. Optionally, you can set the PBLs, DLLs and EXEs as product.

For details, refer to the IBM Rational Synergy documentation on the IBM Rational Synergy Support web site
(`http://www.ibm.com/software/awdtools/synergy/support/`).

Changes since Release 2.0

See the PowerBuilder Help to read about the Source Control Enhancements in PowerBuilder 10.5.

Changes to this interface release are listed below:

- This version of the interface supports IBM Rational Synergy 7.1.
- The version of the interface memorizes the most recent IBM Rational Synergy login information such as user name, database path and server.

Appendix A – Conversion process for PowerBuilder SCC projects

Converting PowerBuilder 7.0 projects to 8.0

If you have PowerBuilder 7.0 projects controlled in IBM Rational Synergy, you cannot use them when you convert to the PowerBuilder 8.0 integration.

Follow these steps to convert PowerBuilder 7.0 projects to PowerBuilder 8.0:

1. Access your project from IBM Rational Synergy.
2. Build your project using PowerBuilder 7.0 (optional).
3. Use PowerBuilder 8.0 to build the same project.
4. Migrate the project to IBM Rational Synergy as a different project.

Converting PowerBuilder 8.0 projects to 9.0

If you have PowerBuilder 8.0 projects controlled in IBM Rational Synergy, you can open them in PowerBuilder 9.0. However, PowerBuilder 9.0 makes changes to project files. Before opening the project, check out all `PBW`, `PBL`, `PBT`, `DLL`, and `EXE` files. PowerBuilder automatically converts these files.

Converting PowerBuilder 9.0 projects to 10.5

If you have PowerBuilder 9.0 projects controlled in IBM Rational Synergy, you can open them in PowerBuilder 10.5. However, PowerBuilder 10.5 makes changes to project files. Before opening the project, check out all `PBW`, `PBL`, `PBT`, `DLL`, and `EXE` files. PowerBuilder automatically converts these files.

Appendix B

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