User Manual

DELMIA Process Engineer®

General Introduction

DELMIA

Foreword

This manual provides an introduction to the basic Process Engineer operations and functions.

While developing these functions we have made every effort to create a clearly organized, easy-to-understand program structure.

A user-friendly interface as well as a clear menu guide will enable you to quickly learn how to operate the program and to get familiar with its functions so that you can carry out your planning tasks in a quick and reliable way.

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Table of Contents

1.Introduction

This manual explains how to use the Process Engineer for your planning purposes.

1.1 How to Use this Manual

This manual enables you to get familiar with the operation and functions of the Work Positions. This manual briefly describes:

- Main menus provided by the Process Engineer
- How to start and exit the program
- How to execute menu functions and how to navigate in views

Note

This manual provides the basis for all further program modules. You will find a more detailed description on how to work with these modules in the respective manuals.

1.2 Documentation Conventions and Symbols

The symbols used in this manual are intended to provide you with keys to the contents in an immediately understandable manner.

This symbol is used to introduce key concepts that are covered in the sections immediately following this symbol. As a result, this symbol most frequently appears at the beginning of chapters or sections.

Note

This symbol is used to mark notes, which provide you with additional information you need to have for further work. You will either find the Note sign at the beginning of a chapter or in a particular text passage in the chapter. Texts bearing this sign are additionally marked with ***Note****. The text is always in italics.*

Caution

This symbol indicates that the text that follows describes particular circumstances that you must avoid to avoid potential errors with the operation of the program or harm to data. You will either find the Caution sign at the beginning of a chapter or near a particular text passage in the chapter. Texts that are introduced by this sign are additionally marked with ***Caution****. The text is always in italics.*

This symbol marks examples which serve to illustrate a certain situation.

This symbol marks the individual operational steps involved in a particular operating instruction. Operating instructions describe operational steps, for example, how to open a menu or execute a function.

This symbol marks listed subjects. The symbol for listed subjects can be either used to structure a continuous text or to list main subject keywords.

➢ This symbol marks list inside a bulleted or numbered list.

This symbol marks cross reference information that is available in another manual.

1.3 New Functions in General Introduction

No new enhancements this release.

2.Starting and Exiting

The DELMIA Process Engineer can be started either from the start menu (*Please refer to the* Figure 1) or by double-clicking the appropriate icon on your desktop. To view the Process Engineer icon on your desktop link it to the desktop using the start menu.

Once the program is started, you must log on with a user name.

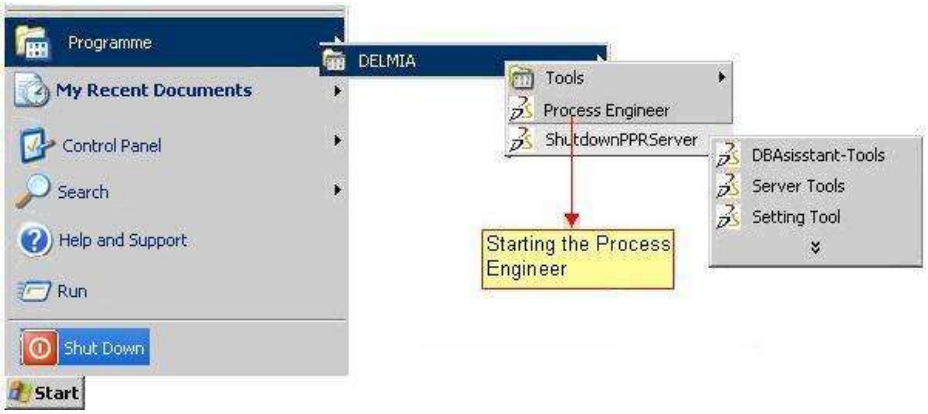


Figure 1: Starting the Process Engineer using the Start Menu or Icon

2.1 Logging on the Process Engineer

1) Enter the user name (admin) in **Name** field and password (admin) in **Password** field. Always observe the upper/lower case as defined by the administrator *Please refer to the* Figure 3.
2) If the upper/lower cases have not been observed when entering the user name or password, a message appears

Figure 2: Login Failed Message

3) When this message appears, simply click **OK**. Then enter again your password and user name. Make sure you type them correctly. You can repeat this procedure as many times as you want

Note

Your password and user name are registered by the administrator. According to the user assigned rights, a user is given access to specific Process Engineer functions. The administrator, for example, has access to all Process Engineer functions and administrator is the only person who is authorized to create user names and passwords. Please refer to the Figure 3.

Language Ids in User Authorization

Figure 3: User Authorization Dialog Box

4) Select the **Language ID** to store **values** of attribute in multiple languages. For attribute to be multilingual, set the property **Is Multilingual** to **Yes** on the attribute in the customization. If the attribute is customized as multilingual and the required language ID is set while login, server returns the corresponding value for the attribute.
   If you want to translate and store the value in database then you can launch two clients and store the value.
   Multilingual will be supported only for attributes of datatype String and RTF and control type Default, Edit, Multiline edit, and RTF Edit.

5) If no language ID is specified then the attribute will have the default behavior and will not be stored or retrieved as Multilingual attribute.

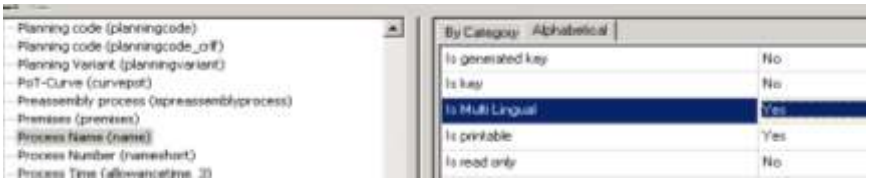


Figure 4: Property on Attribute

Finder also follows the language ID functionality. *Please refer to the* Finder Manual.

Note

You can specify the language in ***poolingserverconfig.txt*** *file. By default no language is specified in the* ***poolingserverconfig.txt*** *file.*

You have to edit the entry for the first time in order to enable the language combo box to be displayed in User Authorization dialog box. Please refer to the Figure 3. It is not recommended to give duplicate language ID's.

```
<<multilingual>>

//List all Languages to be supported for external client
modules

client_language:

   language_ids
['Language1','Language2','Language3','Language4','Languag
e5']
```

You have to edit the entry for the first time in order to enable the language combo box to be displayed. *Please refer to the* Figure 3.

The sequence of language is important and should not be changed once specified. The first language specified is the default language and the other languages are stored in Attribute value set table.

The languages updated in the **poolingserverconfig.txt** are updated in the login dialog box. *Please refer to the* Figure 3.

All the calls using GetAttribute\SetAttribute and IEP_Query respects the Language ID.

Important points about Language Id

Language ID is specified while logging (connecting) to the server. The Language ID will be stored in transaction of the client connection and will be used to get or set attribute through the client. If the default language Id is used then the attribute will be handled in the default way i.e. if the attribute has a physical name ex: “m_name” then the set or get of attribute will be from the column in the database, if the different language ID is selected then the set and get of attribute will be through attribute value i.e. the name will be internally mapped by server to name_multilingual_delmia_1 for language 1 selected and name_multilingual_delmia_2, if language 2 is selected.

- If you want to change the language Id, re-login DPE.
- The language selected while logging is not same as the language available in “Settings tool”, the entry in settings tool is for translation of Static texts and not for the values.
- The property “Is Multilingual” can only be set on attributes of datatype String or RTF type. The attribute cannot take more than 1000 characters which are extendable to 4000 by extending the table size. This property cannot be set for transient attributes. On storing of more characters than the limits taken by database, then error message is displayed and no data is stored.
- If the control type is RTF then the decoration characters are also taken into account for number of character calculation (total characters = number of characters in decoration string + string length of actual data string).
- The language order once set should not be modified.
- There will be slight degradation in PCS as with this implementation more data is stored in database and object tends to become heavier depending on number of languages software is capable to handle and number of “Multilingual” defined attributes.
- This property will not be taken care for attributes having special implementation (e.g: extendedeffectivity, ehmh_status, attribute name on type has etc).
- If the “Is Multilingual” attribute is set on the Plantype level then General finder cannot find the component with the attribute value. For this you have to customize the attribute on type level. For example:

➢ If the attribute “name” on the plantype “Operation” is *overwritten* and customized to be multilingual then the attribute property is bound to plantype only. The project finder follows the customization and looks for the plantype and searched for the specific plantype.
General finder which is based on Type and not plantype will not be able to know the customization and will not return the desired results for

multilingual search. To make the search successful the “Is Multilingual” flag for attribute “name” on type “ergocompprocessdefault” is also to be set to “Yes”.

Manufacturing HUB Server Authentication via Windows Active Directory

Manufacturing HUB user authentication is possible from DPE via Windows Active Directory Database. Manufacturing HUB works with SSPI to do the authentication by using parameter like username, domain, and password. SSPI internally check with centralized Windows Active Directory Database and decide whether to grant or deny access.

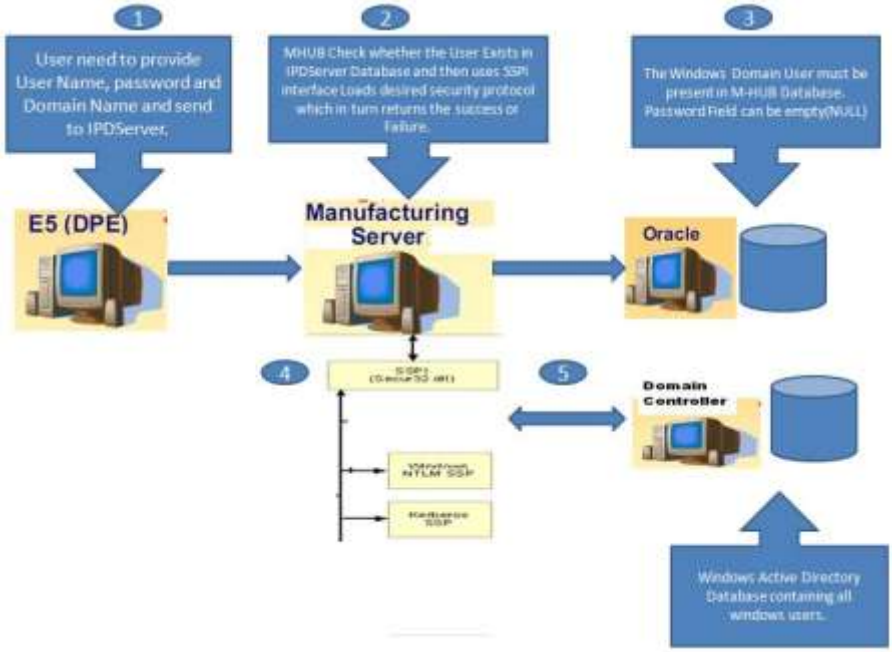


Figure 5: User Authentication Work Flow

1) Set the registry value “HKEY_LOCAL_MACHINE\SOFTWARE\DELMIA\Ergoplan System\Security\ActiveDirectoryAuthEnabled” in machine in which process *EPPoolingserver.exe* is running and restart all server process to apply the changes.

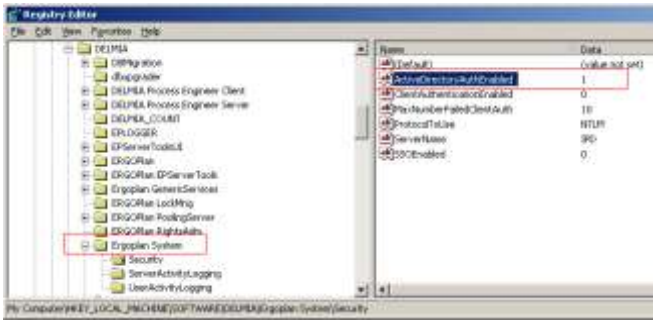


Figure 6: Centralized Registry Setting to Switch MHUB Authentication with Windows Active Directory

Note

By default, the registry setting is not available and you have to manually set the registry setting for the machine in which EPPoolingServer.exe process is running.

2) Define the SSP Protocol to be used for authentication. By default, SSP protocol specified to SSPI layer is **NTLM**. The usage of protocol "KERBEROS", is also supported. If this protocol is used then add/ modify the registry setting as:
HKEY_LOCAL_MACHINE\SOFTWARE\DELMIA\Ergoplan System\Security\ProtocolToUse" set to string "KERBEROS"

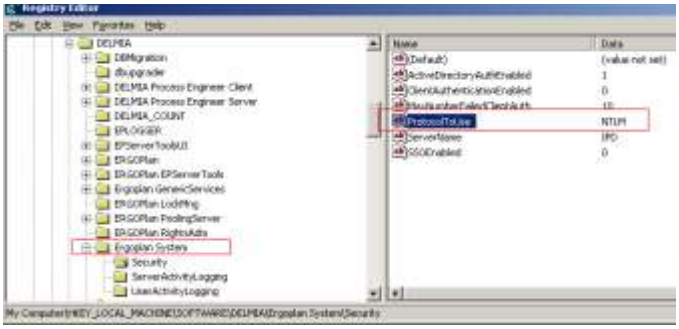


Figure 7: Domain Name Registry Settings: SSP Protocol

Note

The Microsoft® Security Support Provider Interface (SSPI) is the well-defined common API that defines the mechanics of authenticating a user. SSPI is used to do a network style logon with provided user credentials.

3) Login DPE with the Windows user
DPE opens with a new Domain field. Domain field provides the list of available domains. Select the domain for first DPE login. This field remains auto-selected for subsequent login.
If the Windows user is local user (non domain user) then refer to the Behavior for Local Windows Users or Non Domain Users
If the Windows user is domain user then refer to the Behavior for Domain Users.

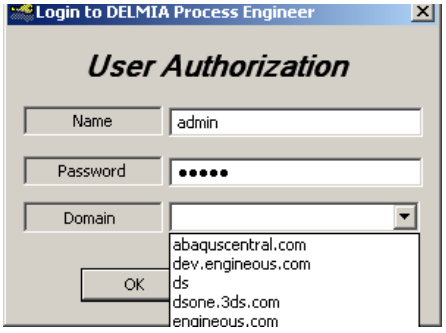


Figure 8: User Authorization Dialog Box – Domain Names

If credentials match then only login succeeds and transaction can be started with the Manufacturing HUB Server. Error message appears if login fails.

If **EPIPDCLIENT** is used get connected to the Manufacturing HUB Server, then the password will be encrypted using **DELMIA encryption library** and will be passed to the server.

Behavior for Local Windows Users or Non Domain Users

1) Go to Windows User Management tool and create a local Windows user. (**My Computer** > **Manage** > **Computer Management** > **Local Users and**

Groups > **Users**)
Local users are the non domain users who do not belong to any domain but are created as local users in machine.

2) Login DPE with admin as **Username** and **Password**.

3) Go to **Tools** > **Database Utilities** > **User Management** and add the Windows user in Manufacturing HUB database.

Note

The entire Windows users who are allowed to use DPE or any other application that connects to Manufacturing HUB Server must be added in the Manufacturing HUB database. It is also possible to populate the users through the batch execution using standard scripting APIs.

Non domain user must be present in Local Active Directory Database of both the client and server machine; otherwise user will not be granted access to get connected to the Manufacturing HUB Server.

If local users are allowed to get connected to PPR server, then local users with the same credentials must be added in main machine and in all chain PPR server machines connected to the main machine.

If some properties, as shown below, are set on the local Windows user then this property must be set for all main and the following machines.

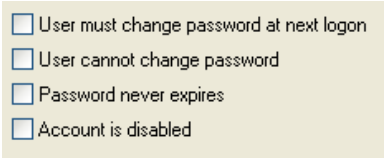


Figure 9: Local Windows User Properties

At runtime the client can get connected to any of the PPR server machines and inconsistent behavior can occur if local user is not added and properties are not set in some server machines.

Example

If the client gets connected to some chain PPR server machine and in this machine:

- if the local Windows user exists with same user name and Windows password, then the server grants access and hence login succeeds.
- if the local Windows user does not exists then the server does not grant access and login fails.
- if the property “Account is Disabled” is set for user then the access will be denied. And when the client tries to get connected to other chain machine and the property “Account is Disabled” is not set for this local Windows user then the server grants access and hence login succeeds for this user.

To avoid such inconsistencies make sure:

- *Local Windows user exists in all main and chain machine.*
- *Local Windows user’s properties are consistent across all main and chain machine*.

Behavior for Domain Users

Customization, like non domain users is not required for domain users; if all servers exist in same domain and centralized Windows Active Directory Database also exists for the domain.

If you create Windows users in same domain using the DPE Management tools then you can login DPE using Windows domain user created in Manufacturing Hub database.

If you want to work in cross domain solution, i.e. PPR Servers running in some domain (DOMAINX) and all other clients moved to some other domain (DOMAINY). Now if these moved clients want to connect to PPR Servers then either:

- Users of DOMAINY who are allowed to connect PPR Server must be added in Windows Active Directory Database of DOMAINX.
- Or create a set of local Windows users (with same user name and password) in DOMAINX in all main and chain machines in which PPR server is running and these local Windows users can be used by the clients in DOMAINY to connect PPR Servers in DOMAINX.

Limitations

1) You cannot change the Windows user password through DPE. Right-click **User** and select **Set Password** to change the Windows user password through Windows utilities. The DPE Change password utility changes the DPE User password in Manufacturing HUB database. *See Changing Password in* UserManagement.pdf.
2) The DPE password rules are not applicable as this functionality is delegated to the Windows Active Directory Database which manages globally for all users.
3) While user is logged in DPE if user credentials properties like user name, password, and password management properties (like change on next login, disable user) are modified from the Windows Active Directory Database then an error message comes if the logged user in DPE starts any new transaction.
4) If the user is removed from the Windows Active Directory Database then remove this user from Manufacturing HUB database also using the DPE User Management tool. The authentication fails even though the user exists in Manufacturing HUB database. For successful login it has to be present in both Windows Active Directory Database and in Manufacturing HUB database.
5) It is not possible to differentiate between same Windows user name present in different domain as Manufacturing HUB database stores only the Windows user name and do not store domain information.
6) Activating or deactivating a user in DPE will have no effect if this functionality is turned on because this is delegated to the Windows Active Directory.
7) We recommend KERBEROS protocol to be used for Domain Users only. That is authentication is always directed to centralize Windows active directory that is to the Domain Controller.
8) If the SSP Protocol KERBEROS is defined in the registry settings, then make sure that non domain or local users do not select the **Domain** field in **User Authorization** dialog box. However this is not the case when SSP Protocol NTLM is defined in the registry settings.

2.1.1 Tools Menu

The executable functions in the Tools menu are generally not available to the normal user. These functions can be executed only by a **system administrator**.

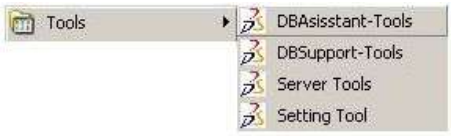


Figure 10: The Tools Menu

Server Tools

The Server Tools monitor the IPD Server processes and manage information on the logged-on clients. The server tools are installed on master and slave servers.

1) You can open the server tools either from the **start menu** or by double clicking **symbol** on the desktop.

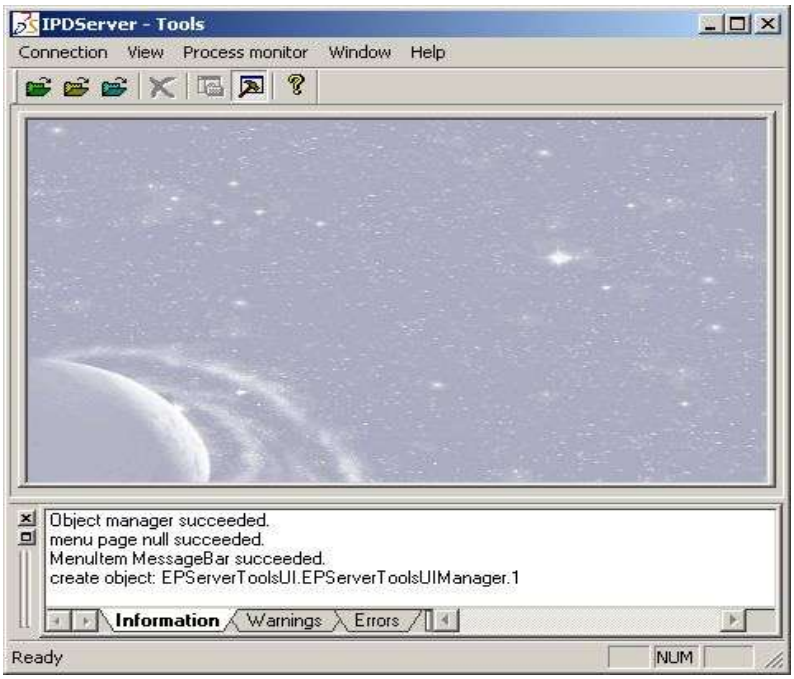


Figure 11: Interface on Opening the Server Tools

Setting Tool

In the **Setting** Tool you can find the paths set when the Process Engineer was installed. The paths can be changed after installation, i.e. upon the failure of a computer or server on which the database is locally stored. The paths must then be changed to correspond to the new location where the database is stored.

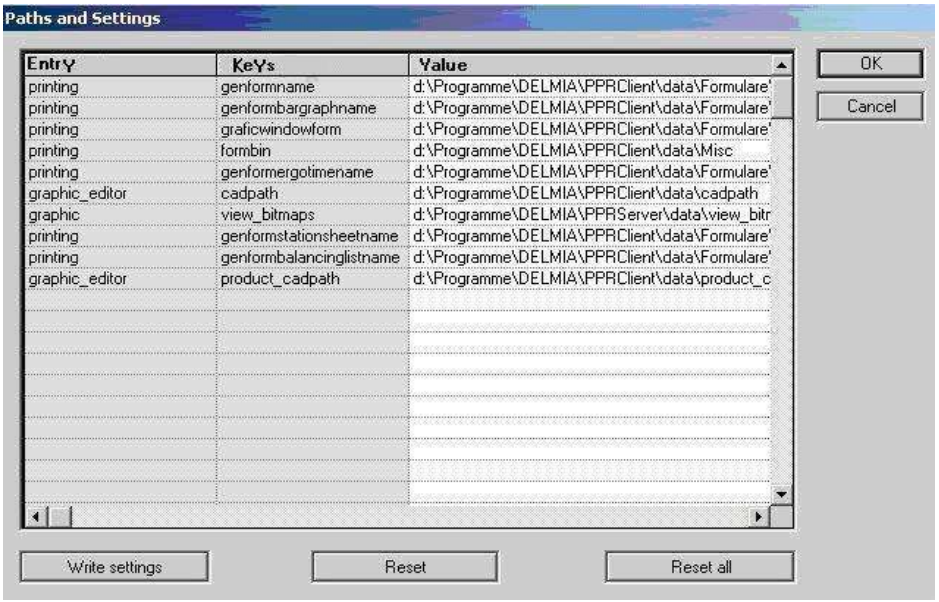


Figure 12: Setting Tools Dialog Box

The **Setting Tool** dialog box is required for both new installations of the database as well as for updates. The standard settings are read from one file. Items are displayed as soon as they are available in the database.

DBAssistant Tools

The DBAssistant-Tool is used for installing the Oracle database. The data content and database structures are transferred upon both import and export. In addition it is possible to align data with an upgrade and query as well as edit support information and Oracle information.

Note

The DBAssistant may be used only by a trained system administrator.

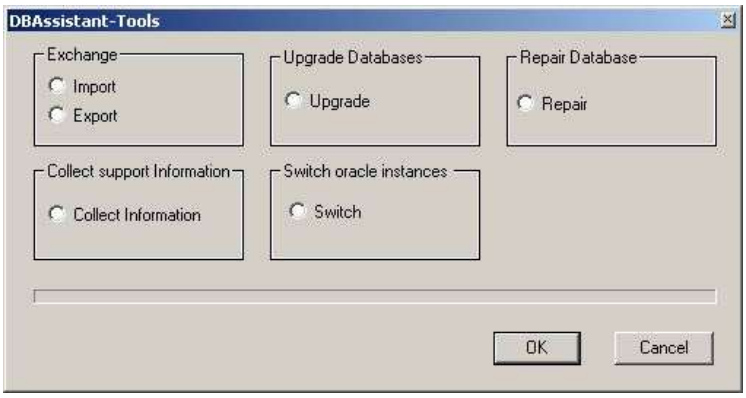


Figure 13: Dialog - DBAssistant

2.2 Saving Data Permanently in the Project Database

To avoid any loss of data that have been created, changed, or added to a certain project, save the data permanently in the project database.

2.2.1 Saving Project Data

Project data can be saved in two different ways:

- Using the menu

- Using the appropriate icon in the toolbar

Furthermore, you can enter a time interval for automatic saving. The automatic saving process is always running in the background. You find the **Settings** dialog box in the **Miscellaneous** tab of the **Tools/Settings** menu. The time interval is entered in minutes. By default, the Process Engineer automatically saves after every 10 minutes. *Please refer to the* Figure 14.

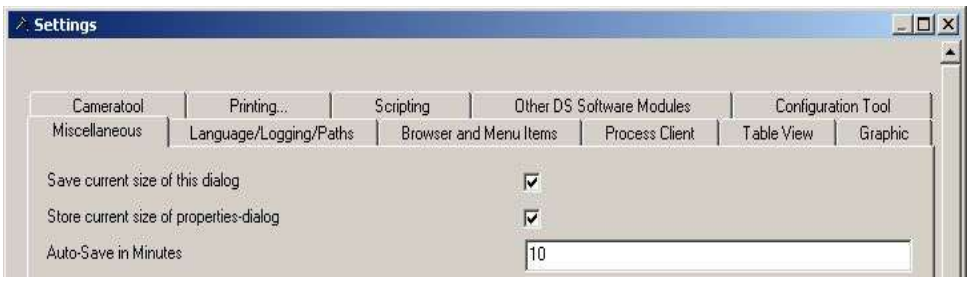


Figure 14: Utilities Menu – Saving Data Automatically

Saving Data using the Icon

The two icons are available to save project data:

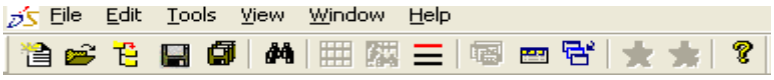


Figure 15: Save Data through Icon

Use the **Save** icon to save transactions in the current window. This icon is only active if a transaction has been performed that is relevant to the saving process. Such transactions are creating new resources or changing data.

If you use the **Save All Transactions** icon, all performed transactions are saved. For example, you may have opened and edited multiple views. This icon is always active.

Saving Project Data using the Menu

Using the **File** menu (*Please refer to the* Figure 16) provides another possibility to save project data. You can get the same result with icons also.

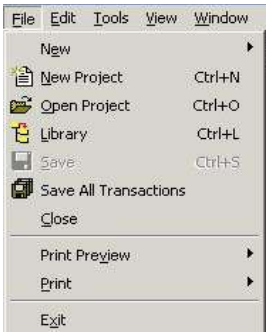


Figure 16: Saving Data using the Menu

If the **Save All Transactions** icon is inactive, you may have performed a transaction which is not relevant for the saving process or there may be no hierarchical level selected in the PPR navigator. The icon gets shaded *Please refer to the* Figure 17.

Figure 17: Inactive Save Icon

2.2.2 Exiting the Program

When you are closing a project or exiting a program with newly generated, yet unsaved data, a program message prompts you to save the data.

Figure 18: Prompt to Save Changes when Closing an Application

To exit a program, use the **File menu** or the **Close button** (cross symbol) in the title bar. *Please refer to the* Figure 16.

2.2.3 Program Crash

Note

A program crash occurs when the entire hard drive space is used. If you have any technical problems with the application, please contact our hotline service team. (Please refer to the Foreword

*The original database condition must be restored after each program crash . Execute the **ShutdownPPRServer** program to ensure that all tasks that have caused the program crash are stopped. You can activate the **ShutdownPPRServer** program by using the start menu or the program icon on your desktop (Please refer to the Figure 19). To view the **ShutdownPPRServer** icon on your desktop link it to the desktop using the start menu.*

Note

There is no saving process in the case of a program crash. Only the most recently saved planning situation is available after the crash.

1) Activate the **ShutdownPPRServer** or **ShutdownPPRClient** before restarting the program after a crash. *Please refer to the* Figure 19.

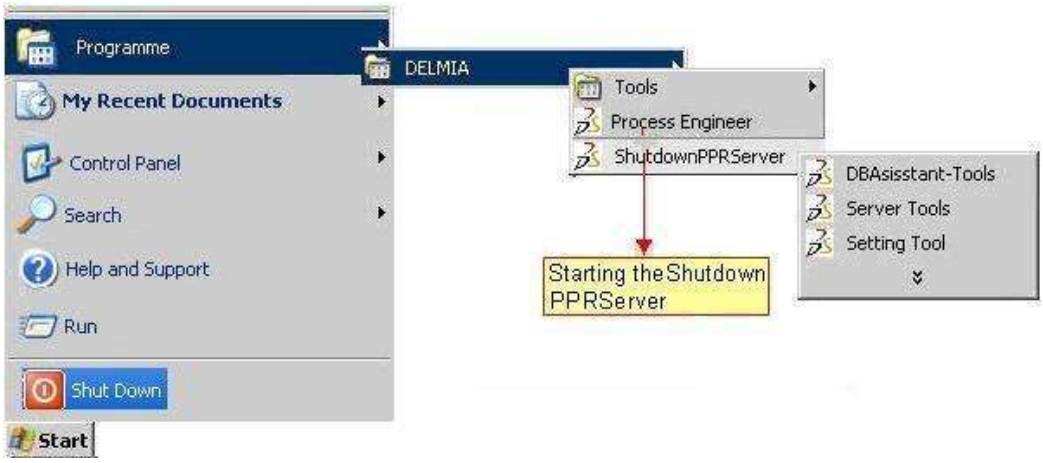


Figure 19: **Executing ShutdownPPRServer**

2.2.4 Migration of DPE Client

Starting from R21, the DPE client modules generates both native 32 and native 64 binaries and provide cross platform compilation for 32 bit and 64 bit natives. The migration of DPE client 32 bit to 64 bit helps to utilize the system efficiently and the processes can use more memory. To utilize the advance features in the hardware and operating system of a 64bit machine, it is must to have a native 64 bit DPE client.

- 64-bit **DPE Client** is supported only on the workstation operating systems (such as Windows Xp x64, Windows Vista x64, and Windows 7 x64).
- Windows server operating systems are not supported for DPE client.
- ALB is not supported for 64-bit DPE client.
- Opening VBA IDE or running VBA macro's in DPE 64-bit client is not supported.
- VBA is not available natively on Windows 64-bit .

3. Views in the DELMIA Process Engineer

The display of views in the Process Engineer is based on Windows technology. If you are planning a digital factory, the Process Engineer provides you with multiple main views for specific use in individual modules of the program. A major benefit of the Process Engineer is the well structured presentation of these views. This helps you to navigate in a confident manner on all levels and quickly provides with the required results.

This chapter gives you a brief overview of the most important Process Engineer views available for your work. For more detailed information on how to execute the different program modules, *Please refer to the* appropriate individual manuals.

3.1 Main Views in the Process Engineer

The Process Engineer provides you with the following views:

PPR Navigator
This view lists the basic procedures for the project you want to create. The PPR Navigator is a global program module which is used for all individual Process Engineer modules. The PPR Navigator displays and generates the project structure. For your work with the PPR Navigator, you get the three project views – Product, Process, and Resource View – as well as with a Project Library and a Plan Type Set. *Please refer to the* Figure 20.

For more information on the PPR Navigator, *Please refer to the* PPR Navigator Manual.

Product View
This view creates and displays the products you want to edit for a specific project. The display is structured in a hierarchical way. The individual hierarchical levels correspond to a bill of materials structure. The Product View is only available in the PPR Navigator. *Please refer to the* Figure 20.

For more information on the product structure, *Please refer to the* PPR Navigator Manual.

Process View
This view generates and displays the processes for a specific project. The display is structured in a hierarchical way. Unlike the Product View, the Process View allows you to open an additional view from the PPR Navigator. Furthermore, the Process View provides the user with additional functions. *Please refer to the* Opening Views from the PPR Navigator.

For more information on how to generate and work with a process structure, *Please refer to the* PPR Navigator Manual and the Process Graph Manual.

Resource View
This view generates and displays the resources for a specific project. The display is structured in a hierarchical way. Like the Process View, the Resource View allows you to open an additional view from the PPR Navigator. Furthermore, the Resource View also provides the user with additional functions. *Please refer to the* Opening Views from the PPR Navigator.

For more information on how to generate and work with a resource structure, *Please refer to the* PPR Navigator Manual and the Manufacturing Concept Manual.

Project Library
The Project Library lists all data that are used for a project and which are valid only for this specific project. Changing these data will only affect the project at hand. *Please refer to the* Figure 20.

For more information on the Project Library, *Please refer to the* PPR Navigator Manual.

The System Library
The Library is the location where system elements or Plan Type Sets are created. The Process Engineer uses the Library on a global basis i.e. the data are available for all projects. *Please refer to the* Figure 47.

For more information on the Library, *Please refer to* the Project Library Manual.

The General Search
The General Search is used to quickly find and provide data. *Please refer to the* Figure 48. The General Search is equipped with specific search functions related to a project.

For more information on the General Search and project-related search functions, *Please refer to the* Finder Manual.

Minimising and Maximising Windows
Use these arrows to minimize or maximize a window. The arrows indicate the direction in which you can adjust the size of a window. Furthermore, you can use the left mouse button to move the window bar individually until you have adjusted the required window size.

3.2 PPR Navigator View

The PPR Navigator is divided into two windows. The left window shows the project structure along with the three structures – the Plan Type Set and the Project Library. The right window is the display area providing several tabs for display in the structure level to be selected. The display varies according to your selection: either you can get a list (as displayed in the Figure 20) or a Properties menu. Objects can be Processes, Resources, or Products. An object is the more general definition of structure levels.

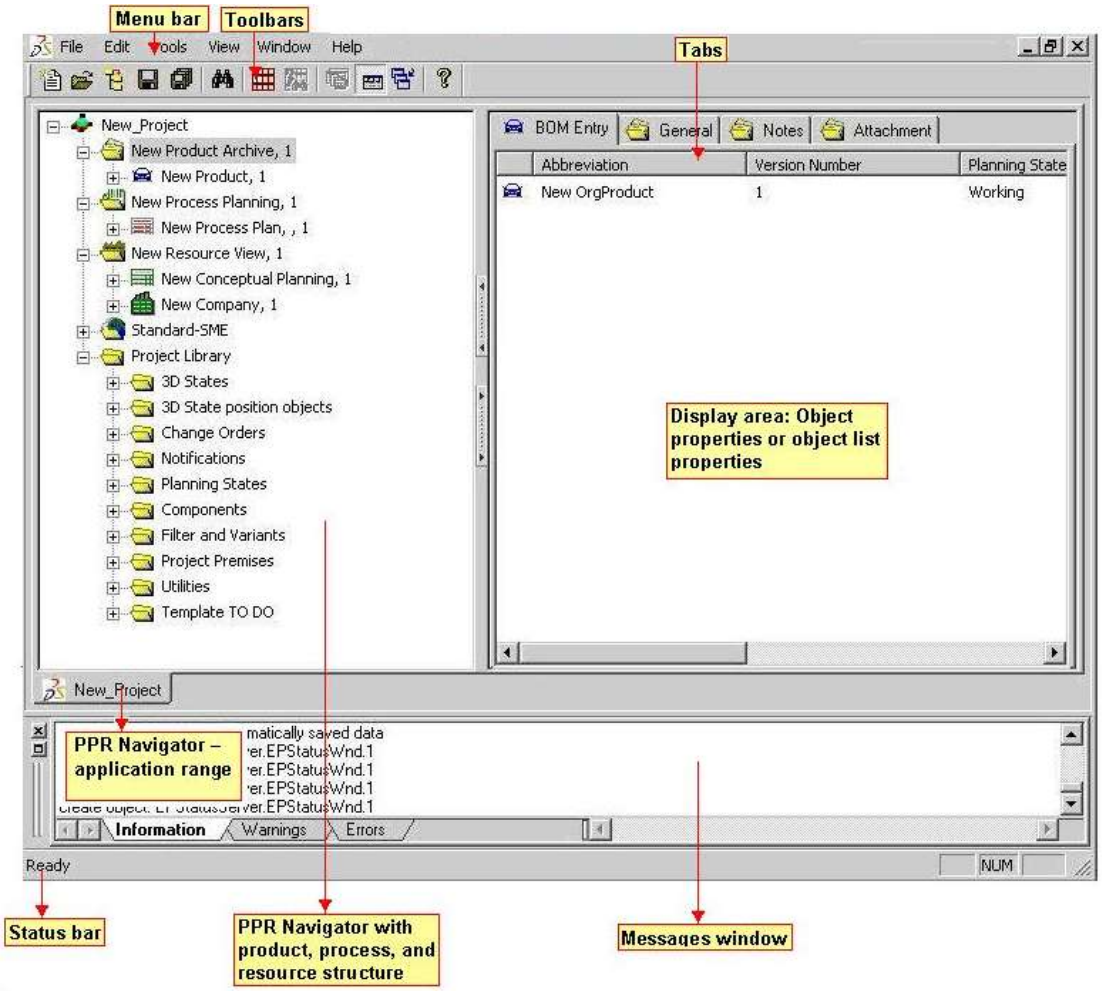


Figure 20: General Structure of the PPR Navigator View

3.2.1 Navigating Views and Opening Menus

The PPR Navigator can be defined as the general control centre of the Process Engineer. It is the starting point for most of the transactions in the Process Engineer that are to be performed in the individual program modules as the three-dimensional presentation of production lines or workstations, the definition of location premises or also for the planning process of a production concept.

The basic Process Engineer functions and operations can be summarized in three items:

- Applying Mouse Techniques: *Please refer to the* Getting Familiar with the Mouse.
- Opening the Process or Resource View: *Please refer to the* Opening Views from the PPR Navigator.
- Working with Menus and Contextual Menus: *Please refer to the* Working with Menus.

3.2.2 Getting Familiar with the Mouse

To use all Process Engineer functions in the simplest possible way, you should have a scroll wheel mouse with three keys.

Applying Mouse Techniques

The mouse is one of the most important tools for your work in the **DELMIA Process Engineer.** Hold the mouse in your hands during all operations to choose options from the menu or to click buttons – buttons are usually used to start program functions – you can also use the mouse when working with contextual menus. Mouse is generally equipped with three operational keys – the left, centre, and right mouse button.

Using the Left Mouse Button

You normally use the left mouse button for operation. If no other mouse button is explicitly mentioned, always use the left key.

For left-handed users, the left mouse button function may be transferred to another key. In this case, the functions are assigned in a mirror-inverted order.

You can use the mouse button in order to:

- Open menus
- Select options
- Activate dialog boxes and input fields
- Highlight entries
- Start program functions using buttons

Using the Centre Mouse Button or the Scroll Wheel

The mouse wheel can be used like a key. You may operate the zoom function in a **three- or two-dimensional view.** You may also use the scroll wheel to display the complete contents from an open view. Normally, the view is additionally equipped with scroll bars.

Using the Right Mouse Button

The right mouse button is mainly used to open contextual menus. Contextual menus offer operational options in addition to the function currently activated.

Double-Clicking

You can use the mouse to double-click to start the Process engineer via the icon on your desktop or to restore the original size of a minimized window. Double-click means: clicking twice on an object with almost no time between the two clicks. Double clicks are always made with the left mouse button.

3.2.3 Using the Center Mouse Button in a Graph

Center mouse button is activated.

Using the center mouse button, you may navigate without limit vertically and horizontally in a graph (as of PE 5.15). There is no limitation anymore, such as that navigation is possible only to cell 282 when the zoom is set to 100%.

To Activate the Scroll Function

1) Click the graph with the center mouse button. The arrows indicate the current direction of motion. You can navigate in eight directions.
2) Navigate in the graph (horizontally or vertically) to achieve the desired view.
3) To deactivate the scroll function, click graph with the left mouse button.

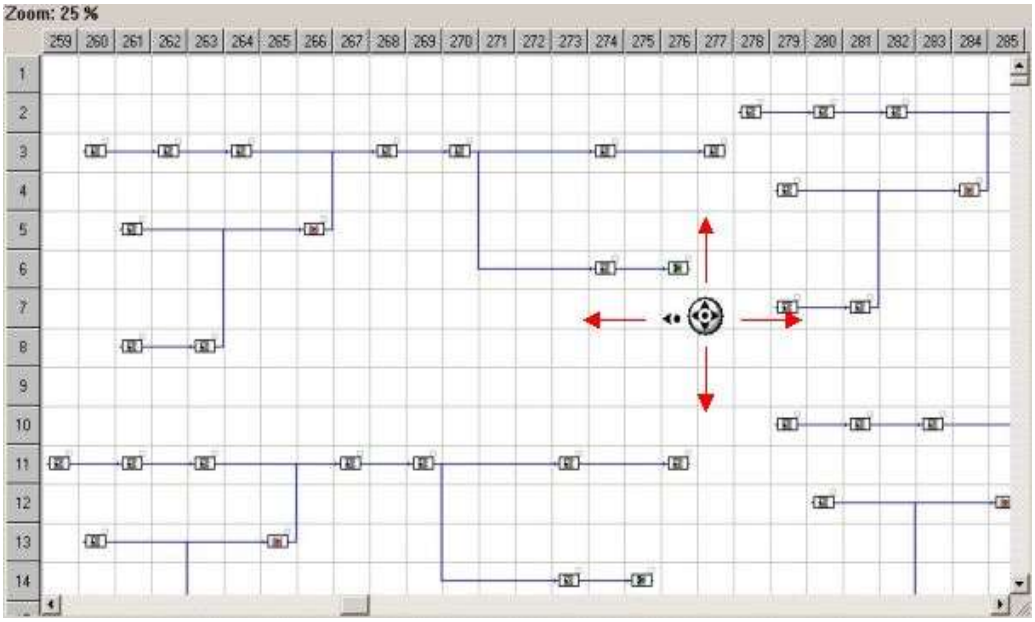


Figure 21: Navigating in a Graph

3.2.4 Using Drag and Drop

You can execute three functions in the Process Engineer by drag and drop:

- Copy and paste
- Move
- Creating a reference

Copy and Paste

Copied objects remain in the source location and are copied to a target location.

In the Process Engineer you can

- Copy objects within the same structure
- Copy objects between different structures
- Copy objects between projects with the same plantype set

Drag and Drop behaves similarly for all copy processes. You can learn more about the behavior of drag and drop on two examples – copying within a structure and between two projects.

In order to copy objects, press the **left mouse button** (standard assignments for mouse buttons) and the **control key**.

Example

Copying within a Structure

1) First select the object you want to copy – in Figure 22 the variant New Variant 1 is selected.
2) Press control key and hold until the object to be copied is added to the target location.
3) During the copy process, the appearance of the mouse pointer changes so that you can immediately see that a copy process is taking place

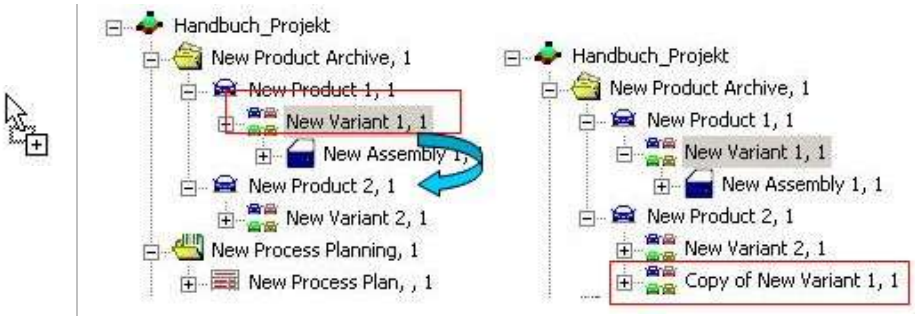


Figure 22: Copying by Drag and Drop within a Structure

4) You can then stop pressing the mouse button and the control key. Now you must confirm two messages.

5) Confirm the message with **OK**. The message shows that a copy process is to be executed.

Figure 23: Execute Copy Message

Determine whether only the selected object (normal) is to be copied or the structure of the object (deep) is also to be copied.

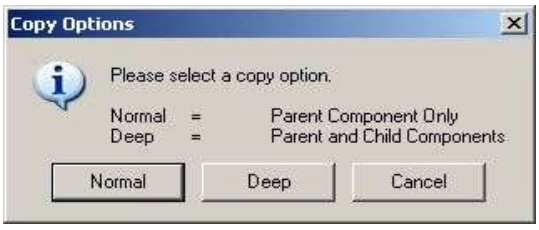


Figure 24: Type of Copying – Normal and Deep

Confirm the message and the object is copied. (*Please refer to the* Figure 22 for copying of the New Variant 1).

Hiding the Copy Options Dialog Box

The customer_related entries enables you to determine if the **Copy Options** dialog box should be displayed during the copying process (*Please refer to the* Figure 24).

- If the value is set to **one**, the dialog is not displayed during the printing process.
- If the value is set to **zero**, the dialog is displayed during the printing process.

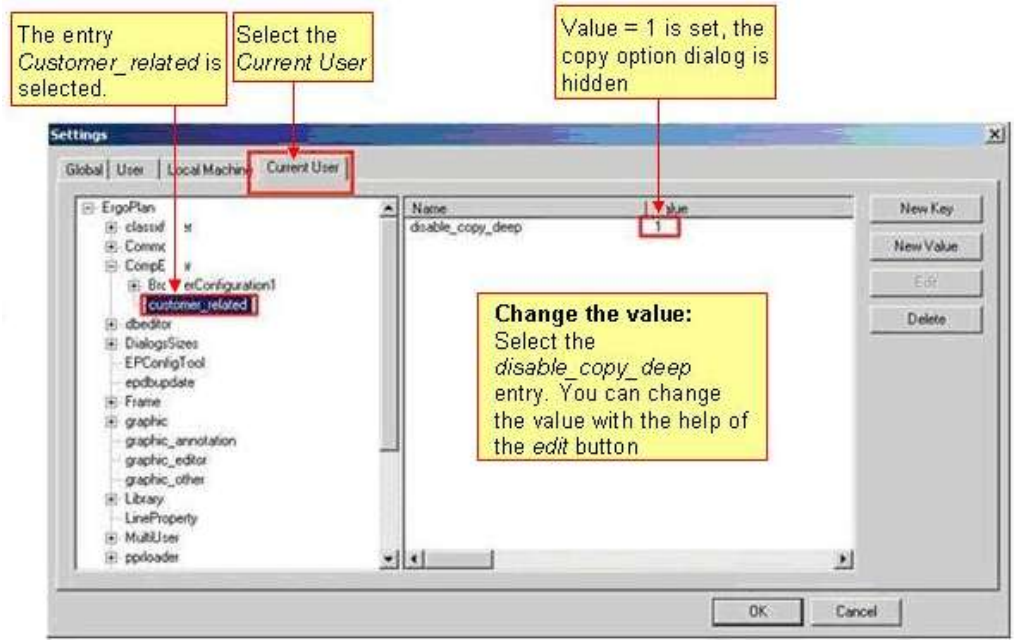


Figure 25: Set the Value – Hide the Copy Options Dialog Box

For more information on global settings, *Please refer to the* Settings Manual.

Copying between two Projects

Example

It is possible to copy objects between two different projects by drag and drop in the same way as one does within a project.

Copying between two different projects is possible only if both projects use the **same plantype set**. You can copy single objects as well as entire structures (partial projects). **Moving** and **referencing** between two projects is not possible.

Note

When copying between two projects, time analyses in the source project are not copied to the target project – when copying partial projects. However the assigned rights of objects are copied.

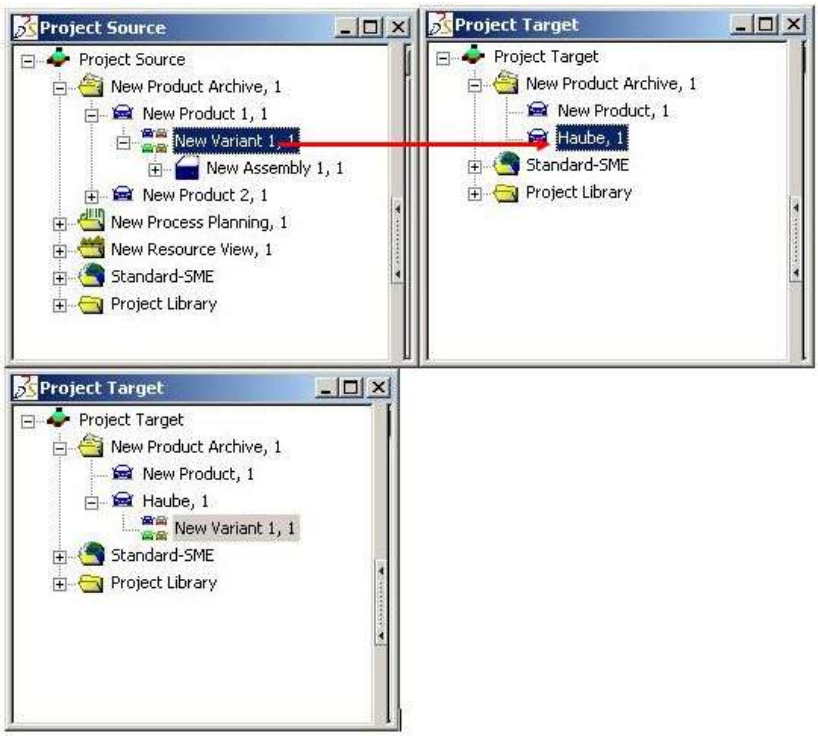


Figure 26: Copying Between Two Projects – Same Plantype Set

Translate

When objects are moved, they do not remain in the source location; they are moved to another location (target).

In the Process Engineer you can

- Move objects within the same structure
- Move objects between different structures
- Drag and Drop behaves similarly for all move processes

In order to move objects, press the **left mouse button** (standard assignments for mouse buttons) and the **Alt key**.

Example

Moving within a structure is demonstrated in the example given below:

1) Moving follows the principle of deleting (source) and inserting (target).
2) First select the object you want to move – in the example, **Copy of car body** is selected.
3) Press the Alt key and keep it hold until the object to be moved is added to the target location.

4) During the move process, the appearance of the mouse pointer changes so that you can immediately see that a move process is taking place.

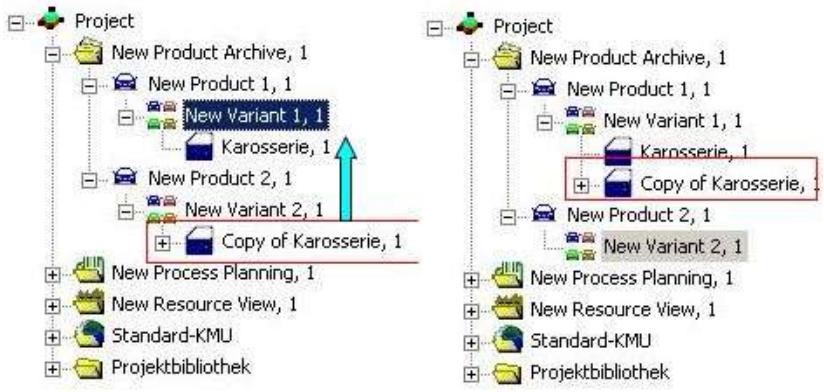


Figure 27: Moving by Dragging and Dropping Objects

5) Release both the mouse button and the **Alt** key. You must now confirm a message.

6) Confirm the message with **OK**. The message shows that a move process is to be executed. *Please refer to the* Figure 27 for copying of the Karosserie.

Figure 28: Execute Move

Creating a Reference

References are created in order to make other usages of a single object possible. Other usages of objects means that all objects always have the same properties: changes to one of the referenced objects apply to all objects. *Please refer to the* Figure 31.

Referencing objects is different from copying in moving, in which objects can continue to be edited independently and have no further reference to the initial situation (at the source location).

System elements of the system library are referenced exclusively – for example when a system element is linked to an object of the resource structure.

Referencing

Referenced objects remain in the source location and are copied to a target location. In the Process Engineer you can:

1) Reference objects within the same structure

2) Reference objects between different structures

3) Reference objects between system elements from the system library and objects in the PPR Navigator

Drag and Drop behaves similarly for all processes. In order to reference objects, press the **left mouse button**. No additional keys are required for referencing.

Referencing within a structure is demonstrated in the example.

Example

1) The referencing of objects follows the principle of copying (source) and inserting (target), and the reference to the source object is maintained.

2) First select the object you want to reference – in the example the **car body** subassembly is selected.

3) Press left mouse button and keep it held until the object to be referenced is added to the target location.

4) During the referencing process, the appearance of the mouse pointer changes so that you can immediately see that a reference is being created.

5) The corresponding structure is also copied, in contrast to copying and moving.

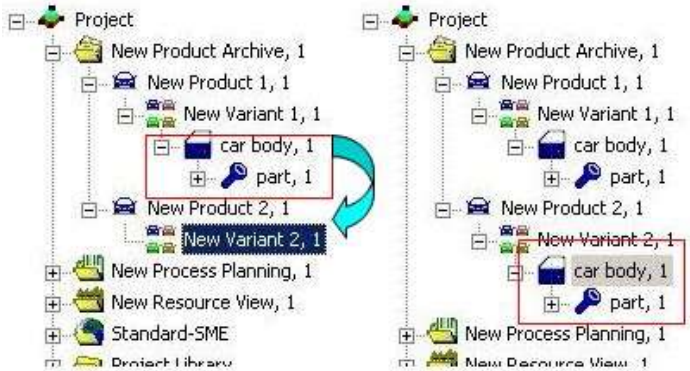


Figure 29: Referencing by Dragging and Dropping Objects

6) Release the left mouse button. You must now confirm a message.

7) Confirm the message with **OK**. The message shows that a reference is to be created. The target object is referenced by the object source.

Figure 30: Execute Link (Create Reference)

Example

Referenced objects do not lose their reference to the source object. If you change the **names of the source or target object**, the change will immediately be executed for both objects.

If you delete a referenced object, all corresponding referenced objects are deleted.

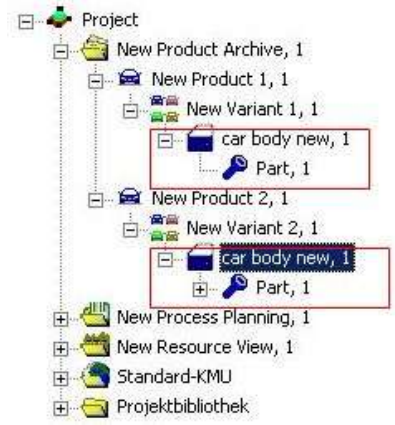


Figure 31: Example: Name Changed – Linked Object

Drag and Drop between different Projects and Templates

	COPY	MOVE	LINK
Project to Project	Top level as well as other components. Copy Symbol appears for non root level component.	Not Supported	Not Supported. For not top level components, though the "link symbol" appears, the operation is not supported. Attempt to link would display an error message.
Project to Template	Top level as well as other components. Copy Symbol appears for non root level component.	Not Supported	Not Supported. For not top level components, though the "link symbol" appears, the operation is not supported. Attempt to link would display an error message.
Template to Project	Top level as well as other components. Copy Symbol appears for non root level component.	Not Supported	Both top level and otherwise supported.
Template to Template	Top level as well as other components. Copy Symbol appears for non root level component.	Not Supported	Not Supported. For not top level components, though the "link symbol" appears, the operation is not supported. Attempt to link would display an error message.

Note

You can COPY or LINK the components from "Project" to "Process Engineer Client" and vice versa. MOVE is not supported for the same scenarios.

3.2.5 Opening Views from the PPR Navigator

To execute further functions for process or resource structures, the Process Engineer provides individual views for these two structure types, i.e. the Process View and the Resource View. Both structures are generated in the PPR Navigator. The Product View does not require an additional view, as all functions are executed by the PPR Navigator.

PPR Navigator views are opened using the contextual menu (*Please refer to the* Figure 32) of the right mouse button. Views can be opened from any

hierarchical level of the structure currently selected, i.e. process or resource structure.

To Open a View

Note

The procedure is the same for both structures. For example, you can move to the Process or Resource View, if you want to create or edit a process graph or a manufacturing concept.

1) Select the hierarchical level you want to work with from the appropriate PPR Navigator structure.

2) Select **Open in** from the contextual menu.

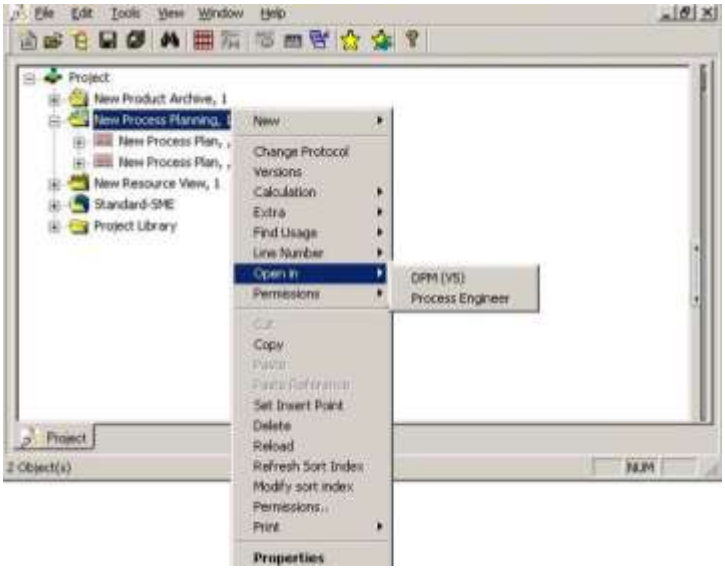


Figure 32: Opening Views from the PPR Navigator

3) Select the view you want to open (here: the process engineer).

The basic settings allow you to define whether you want the view to be firmly linked to the PPR Navigator or whether you want the view to be available as a separate window to be edited. The Figure 33 shows a situation where a firmly anchored structure has been chosen as a basic setting. The range of functions is the same for both settings. Depending on your personal preferences, you may choose either of two methods for window presentation.

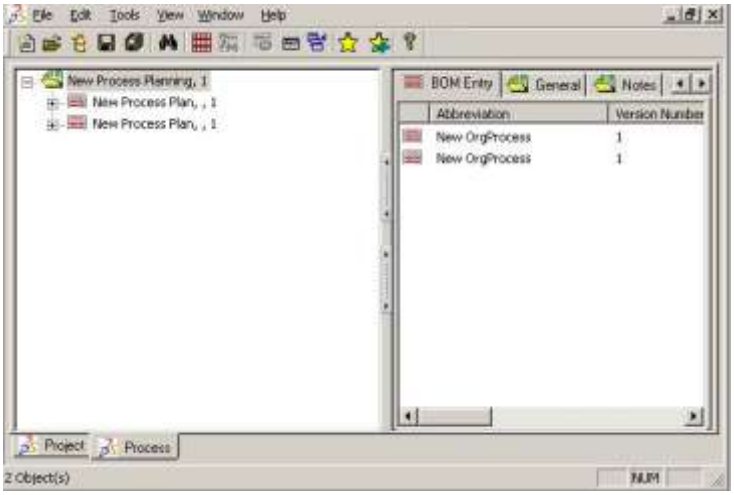


Figure 33: Open Resource and Process Views in a Firmly Anchored Structure

Navigating Horizontally and Vertically

Horizontal navigation (*Please refer to the* Figure 32) in the Process Engineer means to open views from the PPR Navigator. Vertical navigation in the Process Engineer means to open (*Please refer to the* Figure 34) process structures. Thus, horizontal and vertical navigation describe the work direction used between individual program modules or global functions such as the Search (Finder) or the (System) Library.

To Open and Close Structures

To navigate horizontally or vertically, you can use (*Please refer to the* Applying Mouse Techniques) the mouse.

1) Click the plus symbol in the structure. As a result, the next hierarchical level gets open.

2) Click the minus symbol in the structure. As a result, the opened hierarchical level gets closed.

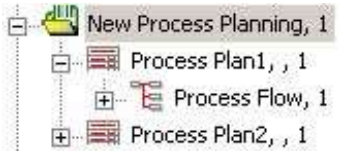


Figure 34: Opening and Closing a Structure

3.2.6 Closing Views

The closing procedure of a view that has been opened from the PPR Navigator, i.e. Process View or Resource View depends on the selected settings. There are two possibilities for your work with views:

1) Either with a firm link to the PPR Navigator

2) Presenting views without any link

You can define this setting in the dialog: Select **Clients should appear as a Docking View** from the **Browser and Menu Items** tab in the **Tools/Settings** menu. *Please refer to the* Figure 35. Both views linked to the PPR Navigator get displayed.

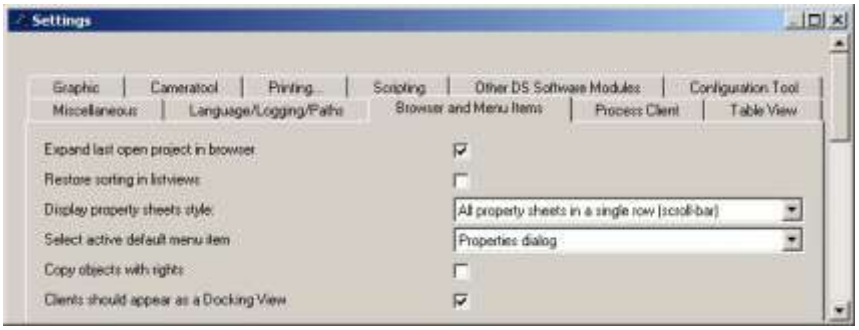


Figure 35: Presenting Views in a Lose or Fixed Structure

Note

You cannot use the Close button (cross symbol) to close a view that is firmly linked to the PPR Navigator. Views can only be closed using the File menu. Please refer to the Figure 36.

Closing Views Firmly Linked to the PPR Navigator

If you work with a display structure that is firmly linked (anchored) to the PPR Navigator, use the **File** menu to close an open view, i.e. Process or Resource View.

You can only close an open view that is currently selected from the application range. *Please refer to the* Figure 20.

Then select **Close** from the File menu. As a result, the open application gets closed.

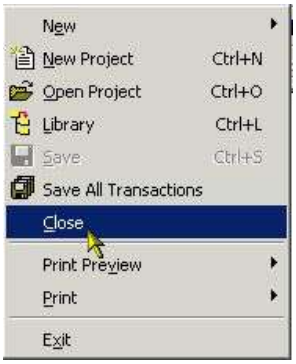


Figure 36: Closing a Firmly Anchored View – using the File Menu

Closing Views that are not Linked

Views that are not firmly linked to the PPR Navigator provide different options to close a Process or Resource View:

1) Using the menu
2) Using the Close button (cross symbol) in the title bar
3) Using the Windows menu
4) Select the view you want to close

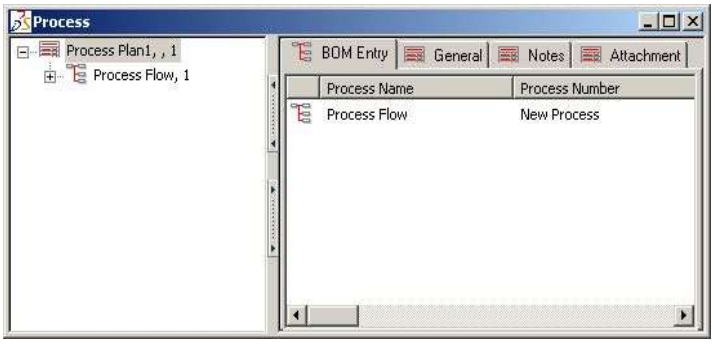


Figure 37: Resource View – not Firmly Anchored

The icon for window selection is only active if the views are **not firmly linked** to the PPR Navigator or if additional functions such as the Search (Finder) or the (System) Library have been activated.

When you activate this icon in the toolbar, the Windows dialog box opens where all open functions and views are displayed.

To Close a View or Function

Select the required view from the dialog. Then click **Close Window(s)**. The selected view gets closed.

To Activate a View or Function

Select the required view from the dialog box. Then click **Activate**. The selected view gets displayed in the foreground on your screen. *Please refer to the* Figure 38.

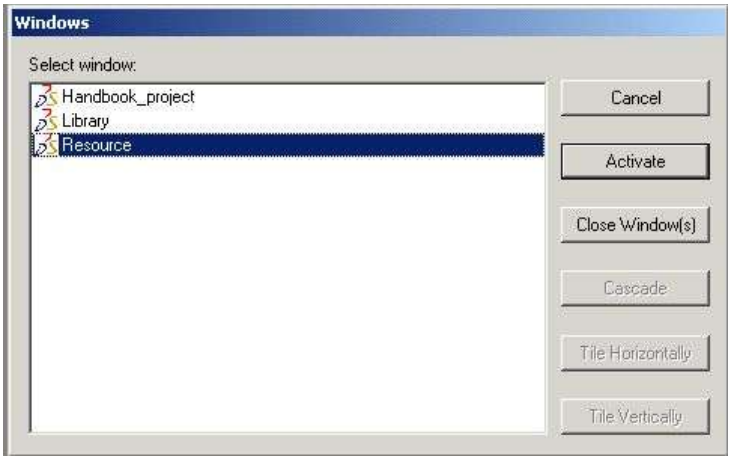


Figure 38: Windows Dialog with Open Views

3.3 Display Area

3.3.1 Specifying Individual User Settings

Anyone can arrange column headings according to the specific needs. This arrangement remains unchanged until the administrator specifies a new arrangement of column headings.

To Arrange Column Headings Individually

1) Left-click the column heading you wants to rearrange in the display area.
2) Move this column heading to the new position.

3) Release the left mouse button. *Please refer to the* Figure 39.

Figure 39: Rearranging Column Headings

4) The column heading has now changed its position. Refresh the view.

Figure 40: Example – Individually Arranged Column Headings

5) Save these settings as usual.

3.3.2 Sorting Column Headings by Plantype

At the beginning of a project, the default settings which have been specified by an administrator with **super user rights** are available in the display area.

The arrangement of column headings in the display area can be changed by locally in the project. For this purpose, there is no need for any **super user rights**. Thus, everyone has the possibility to customize the work environment shown in the display area according to his specific requirements. This means, that locally, user rights and administrator rights are identical.

Note

*An **administrator** with super user rights is allowed at any time to delete column headings that have been individually arranged by a user. He can assign new default settings. This may be the case, for example, if a standardized solution is expected to yield better results or if there are plans to completely redesign the display area.*

Column headings can be sorted for a specific plantype in the display area (called Listview in the information below). Only the **Administrator** may set up the default settings for sorting column headings.

This arrangement of column headings by specific plantype in a Listview can then be accessed by all other users within the project. *Please refer to the* Specifying Default Settings by the Administrator.

Specifying Default Settings by the Administrator

Example

To provide all users with default settings, the administrator saves all users in the **Database** via the **Store List Properties** function after the column headings have been arranged.

Figure 41: Example of Column Headings Arranged by the Administrator

The two functions **Store list Properties** and **Delete Customer Settings** may only be executed by an **Administrator**.

Figure 42: Tools menu – Store List Properties

When the column headings have been arranged, click **Store List Properties** in the Tools menu.

To distinguish this column arrangement by the administrator, the column arrangements of the respective users are stored in the registration editor.

Refreshing the Listview

After storing, refresh the Listview to ensure that the new column arrangement is active. *Please refer to the* Figure 44.

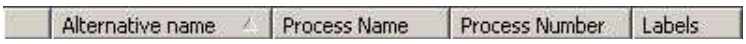


Figure 43: Example – Newly Arranged Column Headings

Select the project node and then press the **F5** Key or select **Reload** in the contextual menu of the project node. *Please refer to the* Figure 44.

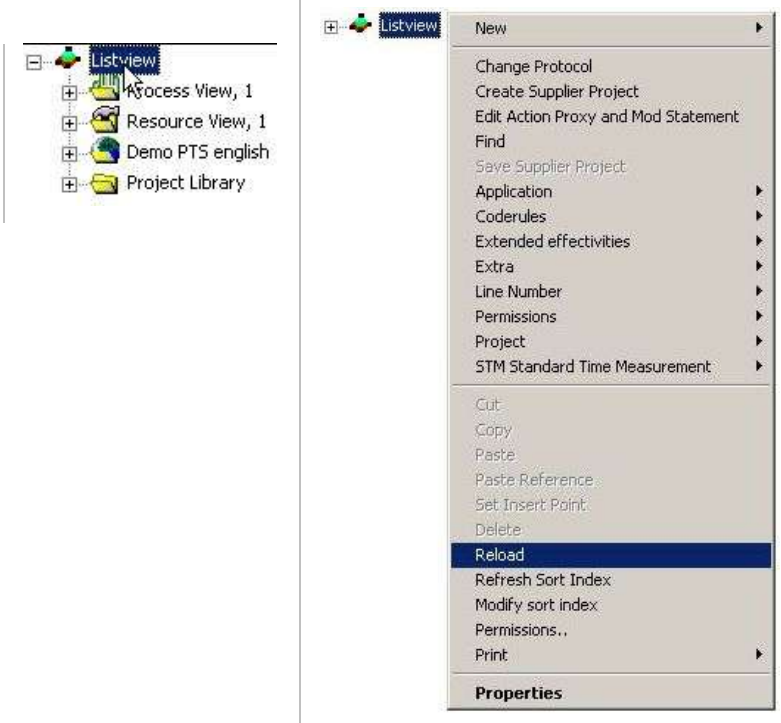


Figure 44: Refreshing the List View

3.3.3 Deleting Plantype-Specific Column Sorting

Again, only the **Administrator** may delete the default plantype-specific sorting arrangement.

Note

*The menu item **Tools/Delete customer settings** is omitted from the Version PE 5.12. The entries are now deleted in the new dialog box **Tools/Settings/Maintenance**.*

3.3.4 Copying the Display Area onto the Clipboard

Only the selected lines get copied onto the clipboard.

1) With the help of the **Control key + A** shortcut, all objects in the list are selected.
2) You can select individual objects by pressing the **Control key** and the **left mouse button**.
3) You can select all the intermediate objects by pressing **Shift key** and the **left mouse button**.
4) Select one or several elements in the display area and open the contextual menu.

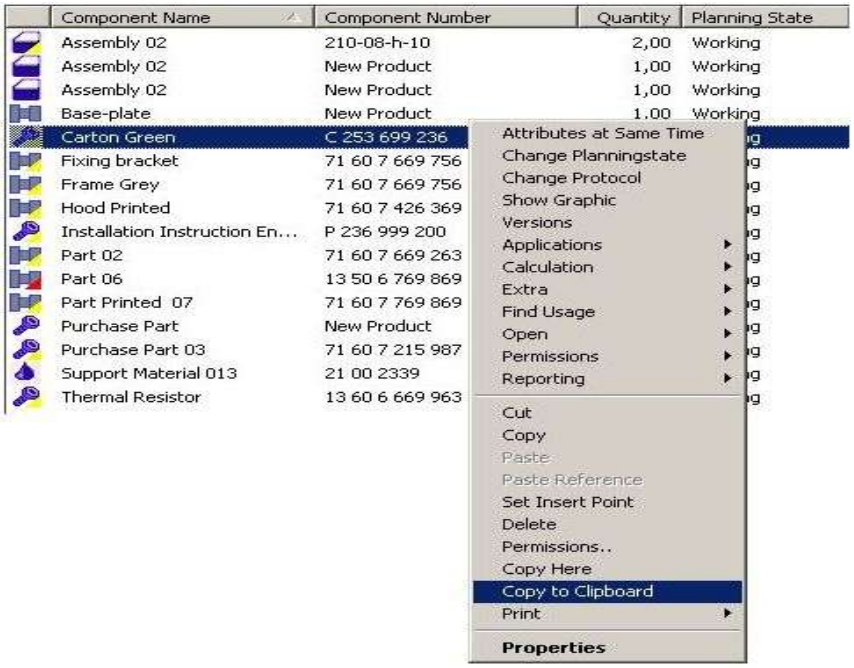


Figure 45: Contextual Menu: Copy to Clipboard

5) Select the entry **Copy to Clipboard**. The selected lines get copied onto the clipboard. The entire display area is copied to the clipboard.

In order to continue to use the content of the clipboard, open Microsoft Excel and select the entry Insert in the menu Edit.

The content of the clipboard is copied to Microsoft Excel. *Please refer to the* Figure 46.

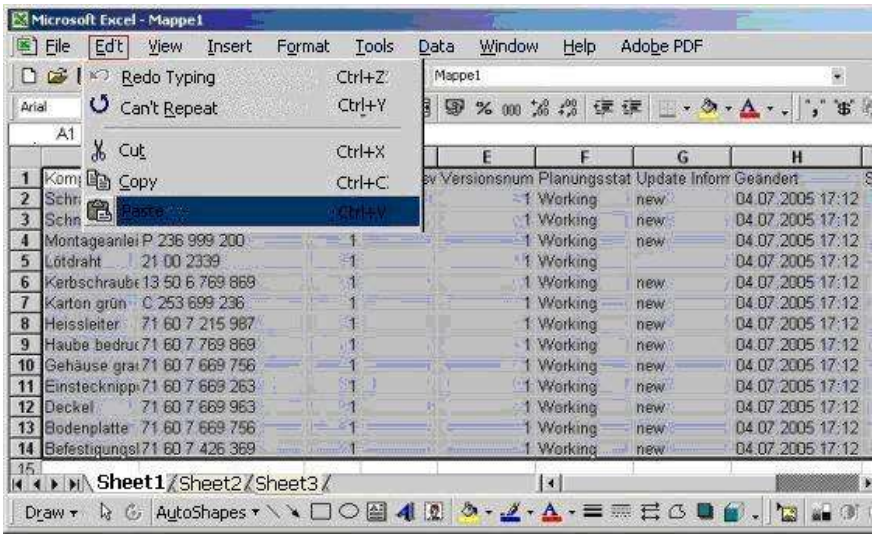


Figure 46: Example for Paste Data from the Clipboard

3.3.5 Library View and Search View

Library View

The (System) Library can be used for any project on a global basis.

The Library can be opened using the appropriate icon in the toolbar or using the **File** menu.

The Library is described in more detail in a separate manual. *Please refer to the* System Library Manual.

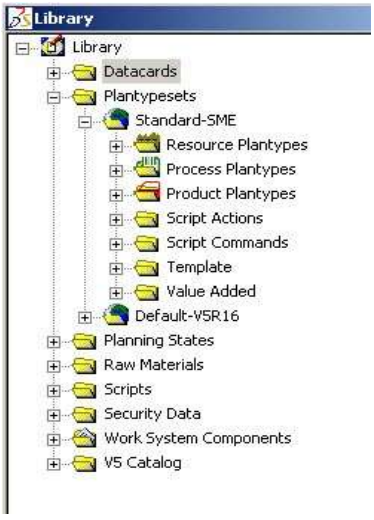


Figure 47: **Library in the Process Engineer**

Search View

The Search within the Process Engineer is an elegant means to quickly find and provide data.

The General Search function can be opened using the appropriate icon in the toolbar or using the Edit menu.

The General Search function is described in more detail in a separate manual. *Please refer to the* Finder Manual.

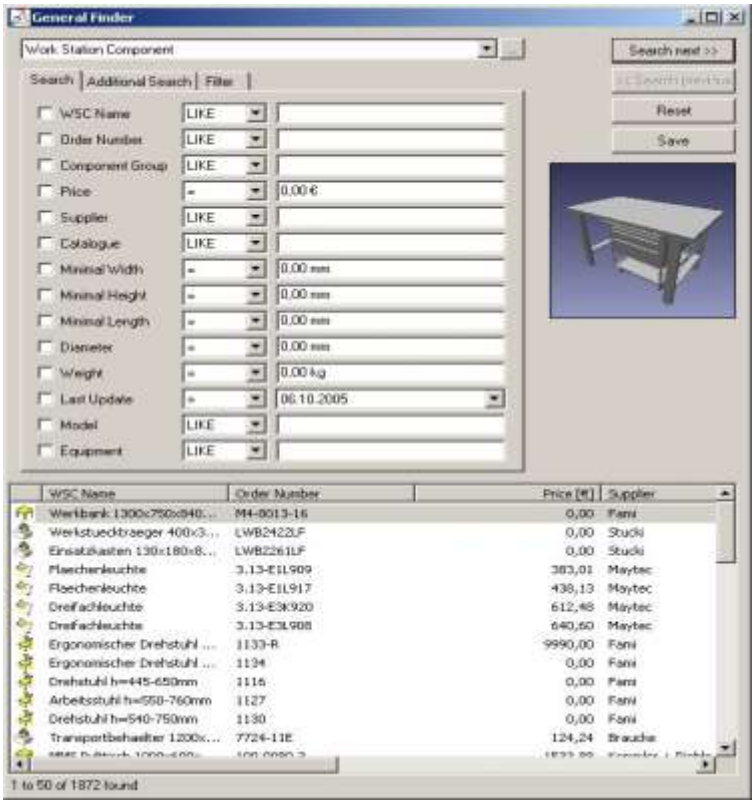


Figure 48: General Search Display

3.4 Working with Menus

The Process Engineer provides three basic menu types:

- Main menus in the menu bar
- Right mouse button contextual menus
- Function dialogs

This section of the chapter provides you with an introduction to basic operations of the different menu types. For project-related information on menus and functions, *Please refer to the* respective manuals.

3.4.1 Main Menus

The main menus are used to activate the basic functions in the Process Engineer. The main menus can be opened from the menu bar.

These three **symbols** in the title bar are used to minimize, close, or maximize the current window.

Figure 49: Menu bar Featuring the Main Menus

File Main Menu

This menu can be used to (*Please refer to the* Figure 50) open a new project, to save a project or to exit the Process Engineer. This menu is mainly used for project-related work.

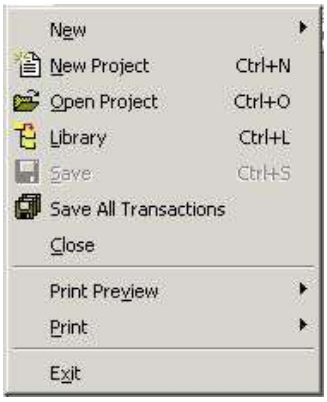


Figure 50: Functional Range – File Main Menu

Activating Menu Functions

Perform the following steps to activate functions from a main menu:

1) To open a main menu, select the required menu from the menu bar (*Please refer to the* Figure 49). To do this, use the left button of your mouse to click the required menu item.

2) To activate a function in the main menu, select the required function from the main menu. To do this, use the left button of your mouse to click the selected function.

3) If you want to activate a function along with additional functions please select another function from the menu. These functions are also marked with an underscore in the main menu.

4) Move your cursor (*Please refer to the* Figure 51) to the additional menu and left-click on one of the functions offered.

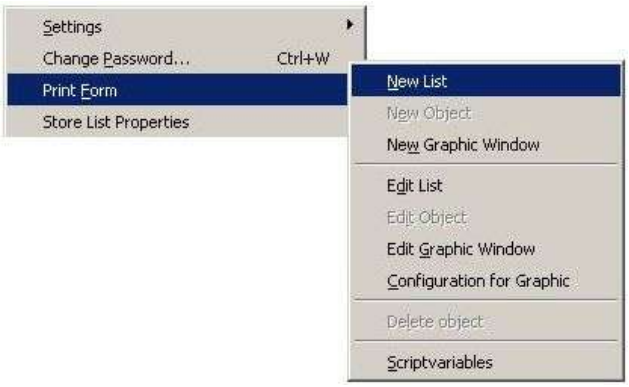


Figure 51: Functions with Additional Functional Range

Edit Main Menu

You can use this menu (*Please refer to the* Figure 52) to copy transactions from a project, to open properties of a selected object or to assign specific access rights for objects. Furthermore, you can start the General Search. You can also use this menu for any specific, project-related work.

Figure 52: Functional Range – Edit Main Menu

Tools Main Menu

You can use this menu (*Please refer to the* Figure 53) to define the basic settings for the Process Engineer, to select print forms, to delete a project, or to import data. Moreover, the Database Utilities menu item provides you with configuration utilities and the user management. This menu is mainly used for general work in the Process Engineer that is not related to a specific project.

Figure 53: Functional Range – Tools Main Menu

View Main Menu

You can use this menu (*Please refer to the* Figure 54), to show and hide the toolbar or the browser window. You can mainly use this menu to provide different views for your work with the Process Engineer.

Figure 54: Functional Range – View Main Menu

Help Main Menu

You can use this menu (*Please refer to the* Figure 55) to access any available manuals from the program. You can mainly use this menu whenever you need help on a specific subject. The yellow question mark provides you with updated information about the currently installed Process Engineer version.

Figure 55: Functional Range – Help Main Menu

3.4.2 Function Menus for Program Functions

Note

In addition to the main menus shown, the Process Engineer provides further menus. These menus are only available for specific functions of a program, such as when working with graphic or camera tools.

Function Menu – Graphic

This menu is available only when you edit a graphic.

Figure 56: Functional Range – Graphic Function Menu

3.4.3 Contextual Menus, Dialogs, and Properties Menus

In addition to the hierarchical level selected, a contextual menu provides functions that you may require or use for your current work process. Dialogs either provide displays for a specific subject or you can enter data in these dialogs. Properties menus define data for a specific object, i.e. for a project.

Opening Contextual Menus
Contextual menus are accessed using the right mouse button.

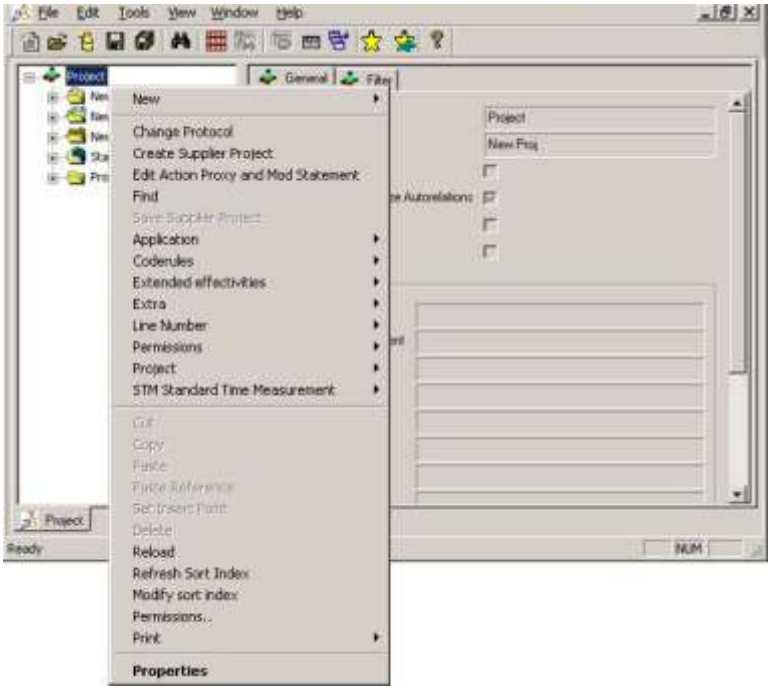


Figure 57: Opening a Contextual Menu using the Right Mouse Button

To Open a Contextual Menu

1) Use the left mouse button to select the hierarchical level from where you want to open the contextual menu.
2) Press the right mouse button.
3) The contextual menu opens. *Please refer to the* Figure 57.
4) To activate the functions provided in the contextual menu, left-click one of the available functions.

Dialogs in the Process Engineer

All program modules provided by the Process Engineer use dialogs in the contextual of currently used functions. The following two examples illustrate the use of dialogs.

Example

Example of a Display – Find Usage

This example shows the usage of the selected Resource View. The individual tabs provide you with further information. The tabs may change with each dialog or also with a selected hierarchical level.

To obtain information about a specific tab, Left-click a tab to view the tab information required.

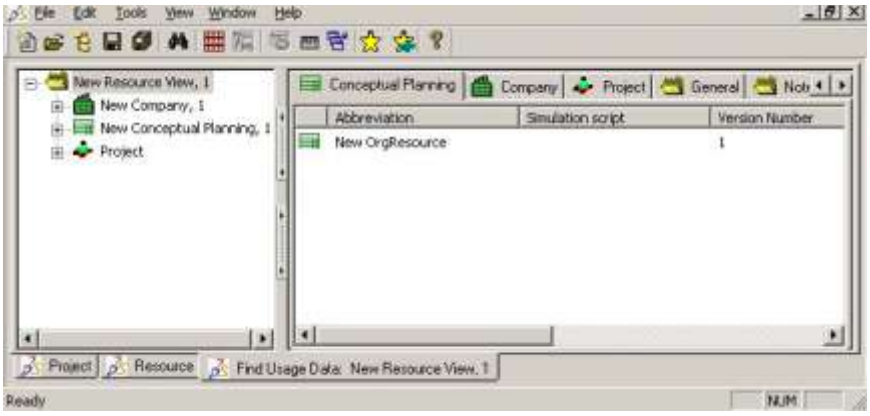


Figure 58: Find Usage – Resource View

Example

Example of Entered Information – User Management

The User Management dialog allows you to enter data, for example, to create a new user or to delete a user. For more information on user management, *Please refer to the* Administrator Manual.

The following functions of this dialog are executed by the administrator:

- To create a new user, you must open the User menu.
- To assign rights, you must open the Rights menu.

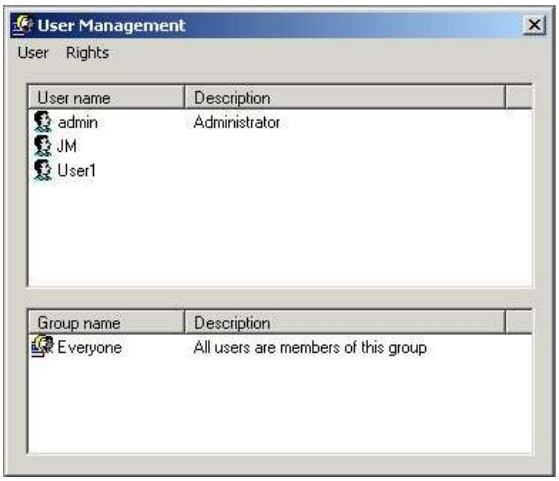


Figure 59: Editing the User Management

Opening Properties Menus

The Properties menu is available on almost all hierarchical levels. Properties menus are accessed using a contextual menu (*Please refer to the* Figure 57) of the selected level. The following example illustrates the use of a Properties menu.

Example

Project Properties Menu – General Tab

Tabs may vary for each Properties menu. Tabs are provided according to the hierarchical level selected.

The **General** tab defines general Properties data. In our example, these Properties data relate to the current project.

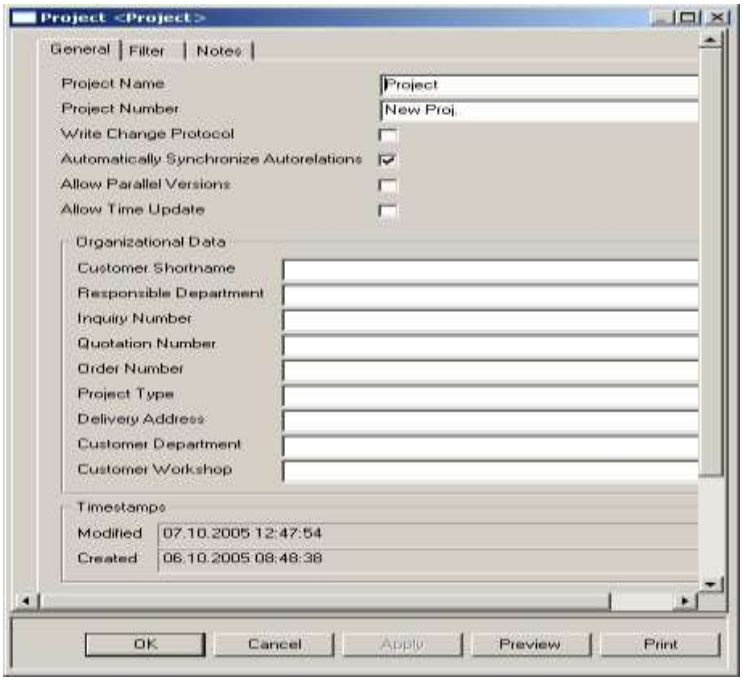


Figure 60: Project Properties Menu – General Tab

Example

Project Properties Menu – Filter Tab

The Filter tab defines filter information. This is helpful, for example, if you want to view a display that has been selected according to special filter criteria. Filters can be coderules, production numbers, or coderule macros. The Filter tab is only available in the Project Properties menu.

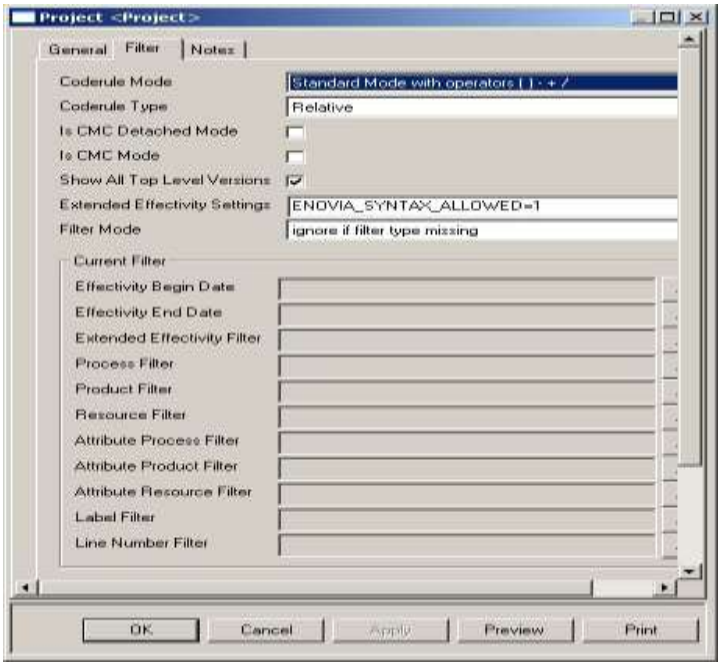


Figure 61: Project Properties Menu – Filter Tab

Note

You can change a filter on a project from project properties dialog box, only if the project is opened with a filter.

Example

Project Properties Menu – Boundaries Tab

The Boundaries tab defines information about the workers, production processes, and the papers required. This information applies to the entire

project. The Boundaries tab is only available in the Project Properties menu. The boundaries tab in project properties is hidden by default.

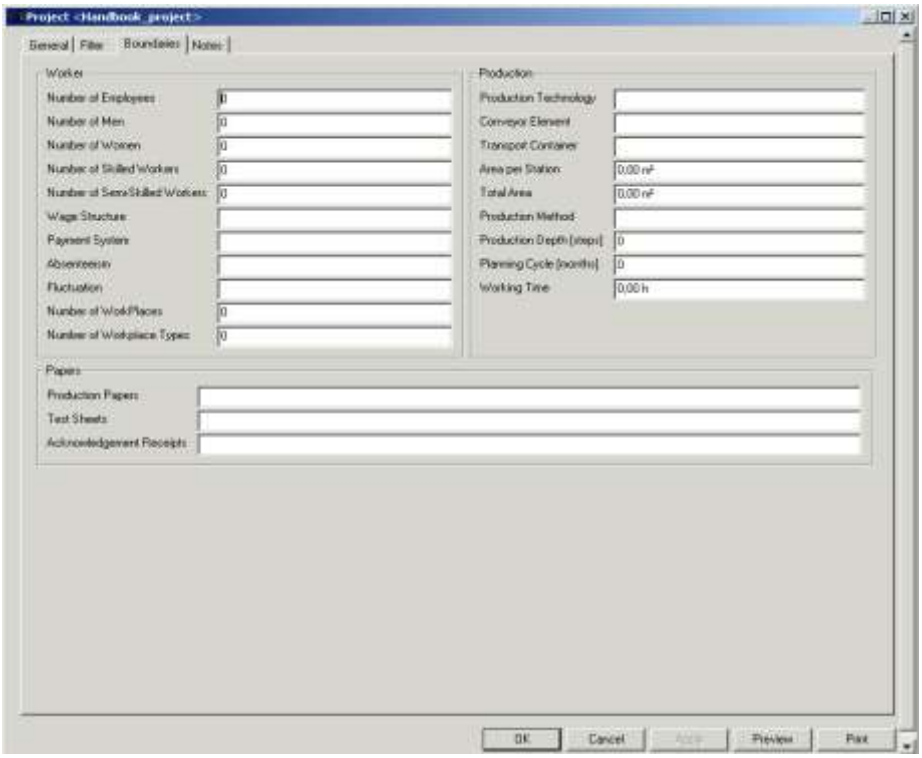


Figure 62: Project Properties Menu – Boundaries Tab

Example

Project Properties Menu – Notes Tab

This tab is virtually the subject heading of the Properties menu. The Notes tab allows you to write important information concerning the Properties. The information you type in this field only makes sense if it corresponds to a subject from the hierarchical level selected. In our example, this applies to any project-related information. This tab is available for all Properties menus.

The contextual menu allows you to change the size, font, or color of the characters used.

To do this, highlight the typed text and press the right mouse button.

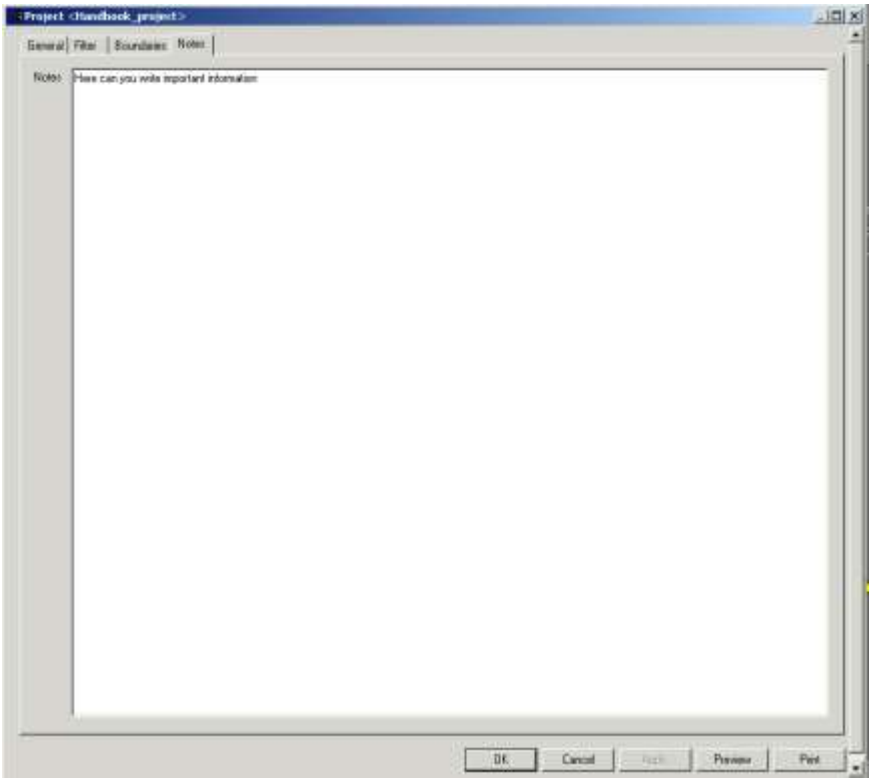


Figure 63: Project Properties Menu – Boundaries Tab

Using the Next and Previous Buttons in the Properties Dialog

With the help of both the **Next** and **Previous** buttons of an opened properties dialog, you can display and even change the properties of PPR-components in another opened structure.

By using this procedure with the help of the opened properties dialog you can move forward or go back in an opened structure. The PPR-component properties that you move to are always the ones that are displayed. The PPR-component with the properties dialog that was opened first remains selected.

1) Open up a structure in the PPR-Navigator.

2) Select a PPR-component in the structure – *Process 002* in the example.

Example

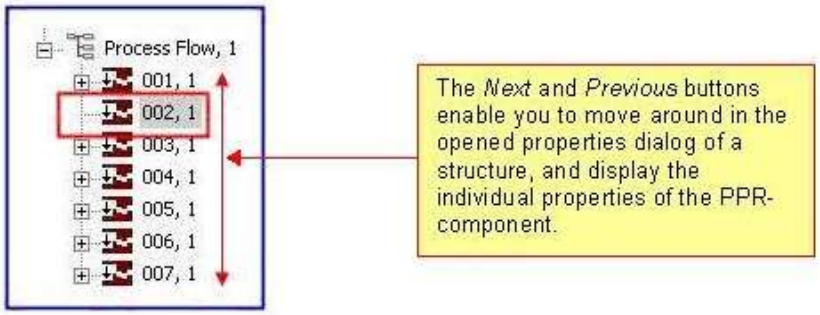


Figure 64: PPR Component

You can open the properties dialog via the contextual menu.

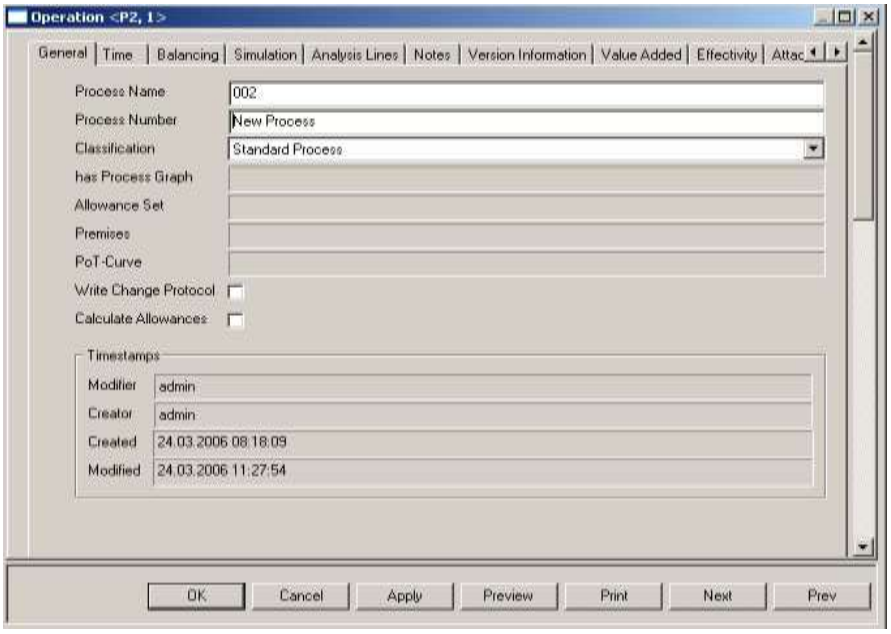


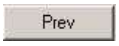
Figure 65: Example – the Properties Dialog of a Process

3) Click **Next** button – the properties of the *Process 002* are displayed. If you want, change the displayed properties of the *Process 002*.

4) You can save any changes without closing the properties dialog box.

5) Confirm the message with **OK** in order to save the changes. This message appears only if you have made changes. *Please refer to the* Figure 66.

Figure 66: Save Changes Message



3) If you want to display the properties of the previous process, click **Previous** button.

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