

SIEMENS

SIMATIC

Industrial software
SIMATIC Maintenance Station 2007

Getting Started

Overview and installation

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Configuration of the sample project

2

Starting SIMATIC Maintenance Station and initial diagnostics

3

Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
⚠ WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
⚠ CAUTION
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.
CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.
NOTICE
indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:

⚠ WARNING
This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Overview and installation

1.1 Introduction

Purpose of this Getting Started Manual

This Getting Started guides you on the way to a functional application, based on a defined example. The document introduces the basic functions and settings of SIMATIC Maintenance Station.

This takes about one to two hours, depending on your experience.

Scope

This Getting Started applies to the SIMATIC Maintenance Station.

User requirements:

- General knowledge in the field of automation technology
- Basic knowledge of SIMATIC automation systems.
- Basic knowledge of WinCC, STEP 7, SIMATIC Manager and HW Config.

Detailed descriptions

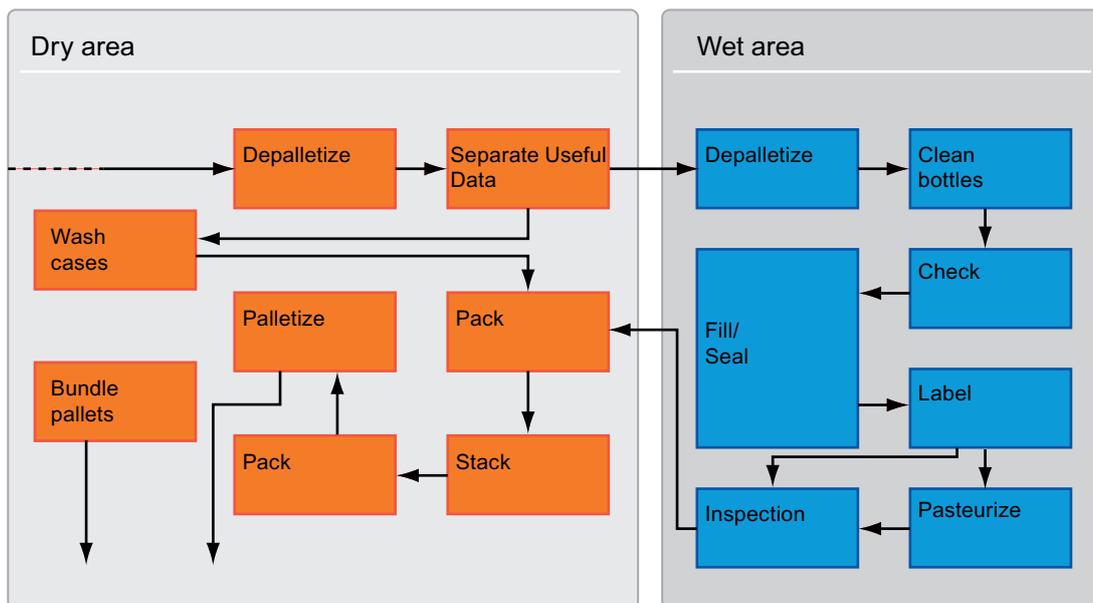
For additional information in terms of the operation, setup and configuration of SIMATIC Maintenance Station, refer to the user manual.

1.2 Content of the sample project

Overview

The sample project describes a bottling line. The plant consist of a dry and of a wet area.

Overview of the process elements of a bottling line:



- Dry area
 - In the dry area, personnel handle the delivery and unpacking of empty vessels and supply these to the actual bottling unit.
 - The filled products are also packaged and prepared for shipment in the dry area.
- Wet area
 - This is where the actual bottling process takes place.
 - The liquids are filled, for example, into bottles, cans or barrels.
 - The vessels must be cleaned before they are filled.
 - The cleaned vessels are inspected, and are then filled and sealed. In the next step, the products are labeled, inspected once again, and then transferred to the dry area for further packaging.

Scope of the sample project

This sample project is focused on a simplified wet area of a soft drink bottling plant. The bottling unit only processes PET one-way bottles. In order to limit the scope of the sample project, it shall be assumed that the bottles delivered have been cleaned, sterilized and inspected.

Machines of the simplified bottling plant:

- "Conveyor" for the transport system.
- "Filler" for the filling and sealing unit.
- "Labeler" for the labeling unit.
- "Palletizer" for the palletizer unit.

Each production line is controlled by a separate automation system. The plant is operated and monitored using a SIMATIC WinCC system.

The PC station is configured as "WinCC single-user project" type. In addition, a SIMATIC Maintenance Station is to be installed on this WinCC single-user station.

1.3 Hardware and software requirements

Notes on installation

Please observe the installation information provided in the "readme" file on your SIMATIC Maintenance Station product DVD.

Hardware requirements

System	Clock rate	Main memory	Free hard disk space
Engineering station	2.8 GHz	1 GB	15 GB
Maintenance Station Stand-alone / WinCC-Station "Single-user Workstation"	2.8 GHz	1 GB	15 GB
Maintenance Station Server / WinCC Server	2.8 GHz	1 GB	15 GB
Maintenance Station Client / WinCC Client	2.8 GHz	512 MB	3 GB

Software requirements

Supported operating systems

System	Operating system
Engineering station "ES"	Windows XP Professional SP2 Windows Server 2003 SP2
Maintenance Station Stand-alone / WinCC-Station "Single-user Workstation"	Windows XP Professional SP2 Windows Server 2003 SP2
ES with Maintenance Station Stand-alone	Windows XP Professional SP2 Windows Server 2003 SP2
Maintenance Station Server / WinCC Server	Windows Server 2003 SP2
Maintenance Station Client / WinCC Client	Windows XP Professional SP2 Windows Server 2003 SP2

Note

The Windows Firewall must be deactivated when running the Windows XP SP2 operating system. The active Windows Firewall may prevent communication and data exchange between the PCs.

SIMATIC software

The software below is not supplied and installed with the SIMATIC Maintenance Station. Depending on the intended use of a PC, the software must be installed prior to the Maintenance Station.

- SIMATIC STEP 7 V5.4 SP3
- SIMATIC WinCC V6.2 SP2 or V7.0
- SIMATIC NET V6.4

1.4 Installing the sample project

Requirements

The sample project requires full installation of SIMATIC Maintenance Station. For additional information in terms of installation, refer to "Installing SIMATIC Maintenance Station 2007" in the user manual.

Installation

Setup automatically includes the sample project when installing SIMATIC Maintenance Station.

Configuration of the sample project

2.1 Overview of the configuration steps

Overview of the configuration steps

1. Opening the sample project and preparing the OS:
 - Open the sample project
 - Rename the computer in the WinCC project.
 - Configure the project in OS Project Editor.
 - Define the start screen
2. Initial compilation of the project.
3. Configuring network components with OPC Server
4. Diagnostics screens: Setting parameters and creating screens
5. In the properties of the SNMP OPC-Server, execute the function "Export tags for WinCC" as described in step 6 of the topic "Configuring network components using OPC Server".
6. Compiling the project
7. Setup and configuration of the user interfaces
8. Starting SIMATIC Maintenance Station

2.2 Opening the sample project and preparing the OS

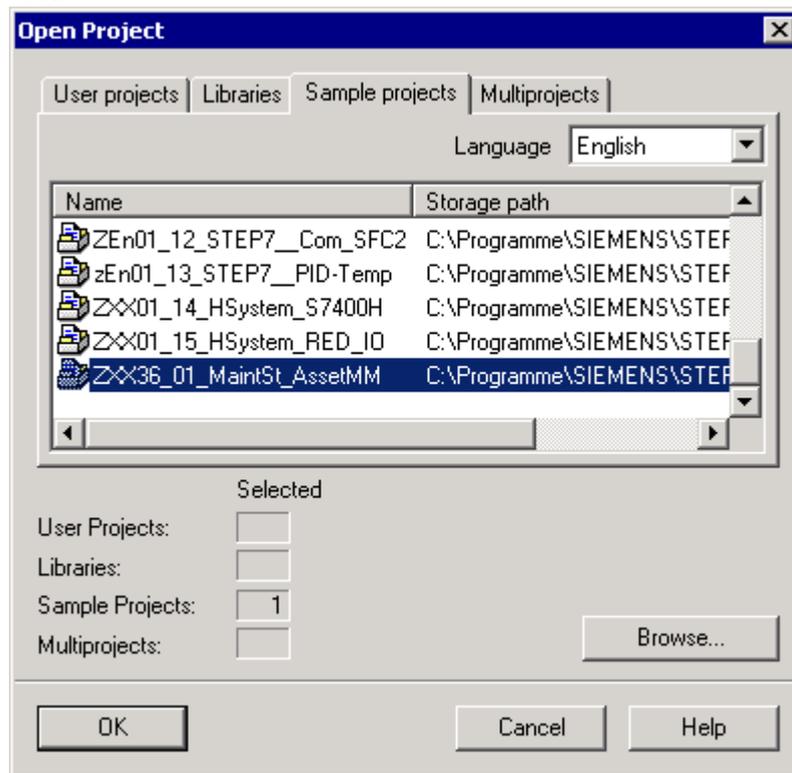
2.2.1 Opening the sample project

Requirements

This Getting Started is based on the "ZXX36_01_MaintSt_AssetMM" sample project. Setup automatically includes this sample project when installing SIMATIC Maintenance Station.

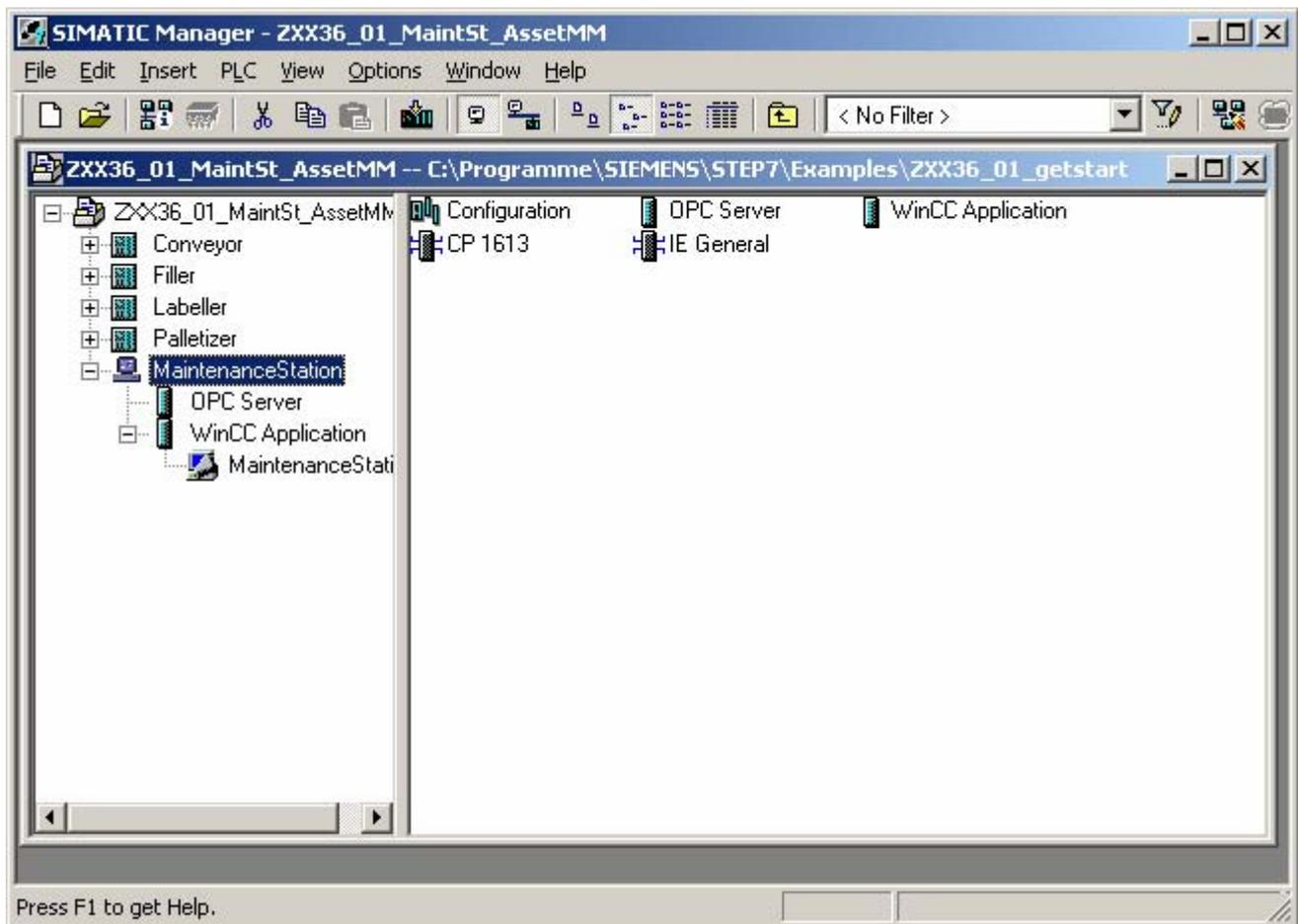
Procedure

1. Select "File > Open" in SIMATIC Manager to open the "Open project" dialog box.
2. Change to the "Sample projects" tab.
3. Select the project "ZXX36_01_MaintSt_AssetMM" and then confirm your selection with "OK."



In the opened project you can now view the individual stations and components of the sample project:

- The AS "Conveyor" for the transport system
- The AS "Filler" for the filling and sealing unit
- The AS "Labeller" for the labeling unit
- The AS "Palletizer" for the palletizer unit
- The "MaintenanceStation" PC station.



2.2.2 Renaming computers in the WinCC project

Introduction

Rename the computer name in the WinCC sample project. Use the name of a PC which exists on the network or in the plant, for example, the name of the PC with SIMATIC Maintenance Station installation.

Requirements

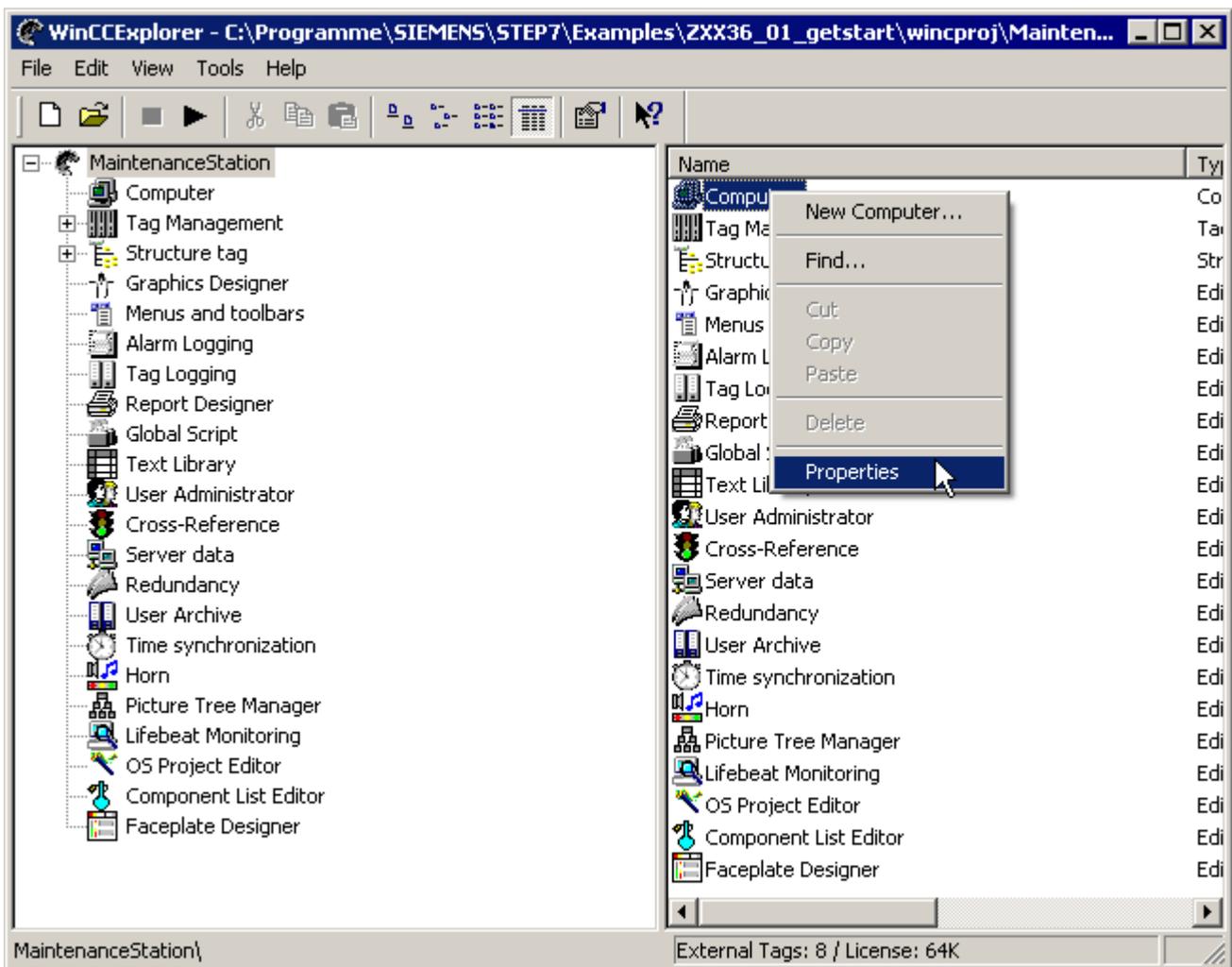
You must define your computer name.

To define the computer name in Microsoft® Windows® XP and Server 2003:

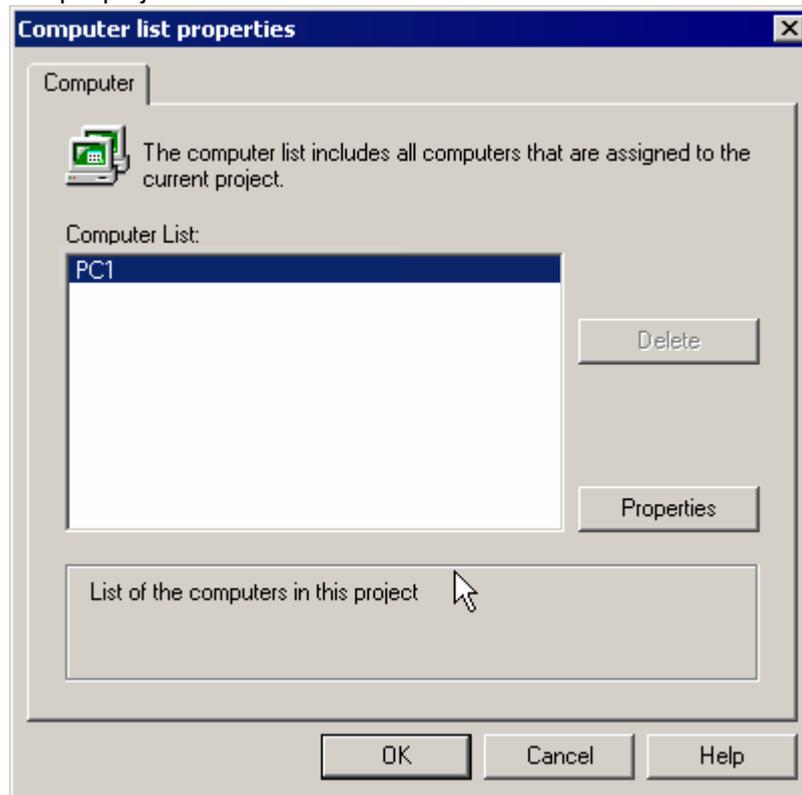
- Go to the Start menu in Windows and select "Start > Settings" > "Control Panel".
- Open the "System Properties" dialog box by double-clicking the "System" icon.
- Select the "Computer Name" tab. The entry "Full computer name:" shows you the name of your computer.

Procedure

1. Select the "MaintenanceStation" object from the navigator in SIMATIC Manager, double-click "WinCC Application" and then select the OS symbol named "MaintenanceStation". Right-click the entry, and then select "Open Object" from the shortcut menu.
2. When you initially open the sample project, the program outputs a "The configured server is not available. Do you want to open the project with the local computer as server?" message Confirm this message by clicking "Yes". The WinCC project opens.
3. Select the "MaintenanceStation" object from the navigation window of WinCC Explorer. Select "Computer" from the right pane, and then right-click this entry. Select "Properties" from the shortcut menu.

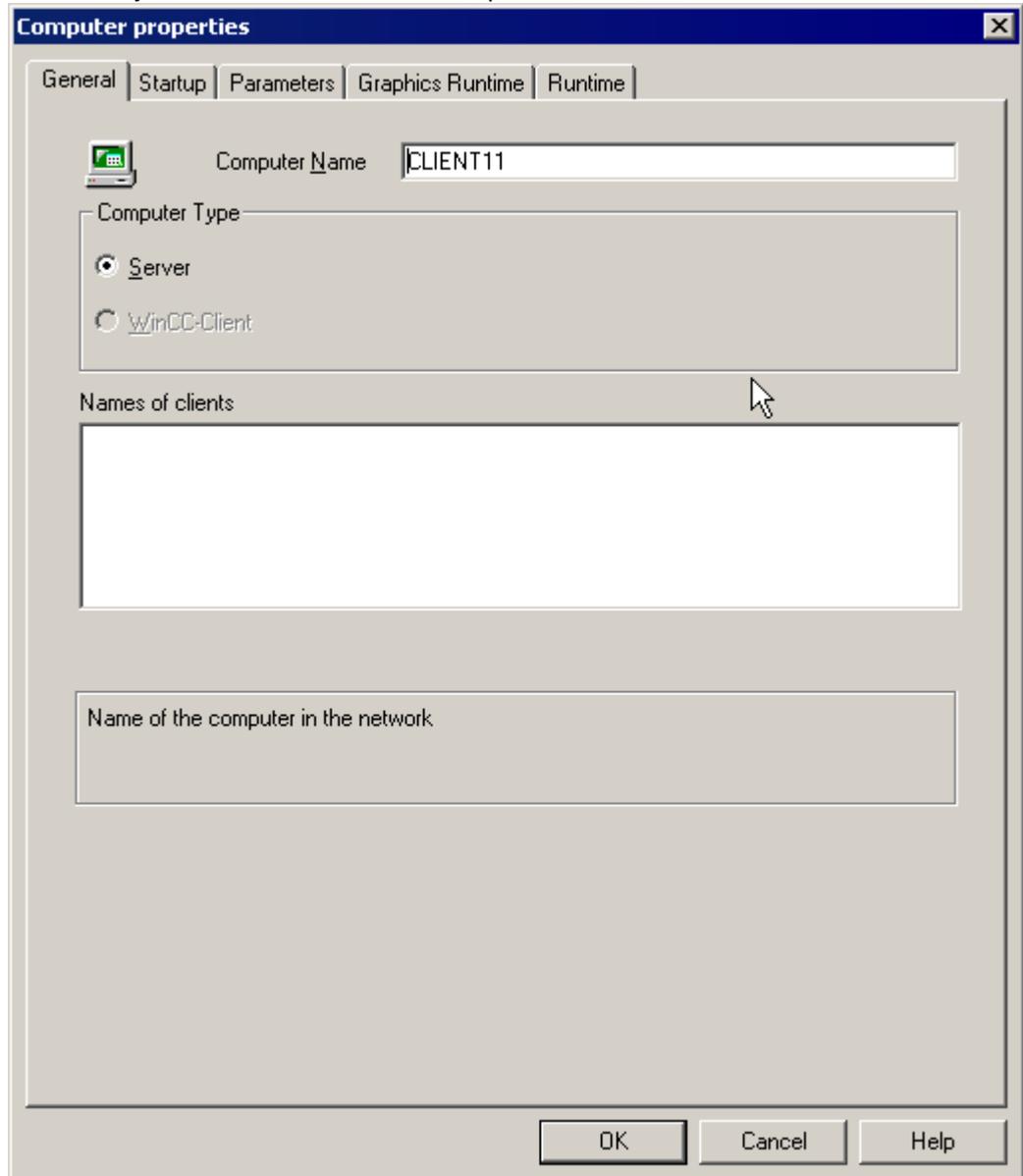


4. The "Computer list properties" dialog box opens. The list returns only one computer in the sample project.



Click "Properties". The "Properties" dialog box opens.

5. Type in the name in the "Computer name" input box and confirm your entry with "OK." The name you enter must match the computer name set in Microsoft® Windows®.



6. The program outputs a message informing you that WinCC has to be restarted before the changes can take effect. Confirm the message with "OK".
7. Close the WinCC project with "File > Close" and then open it again by clicking "File > Recent file".

2.2.3 Generate the project settings in OS Project Editor

Introduction

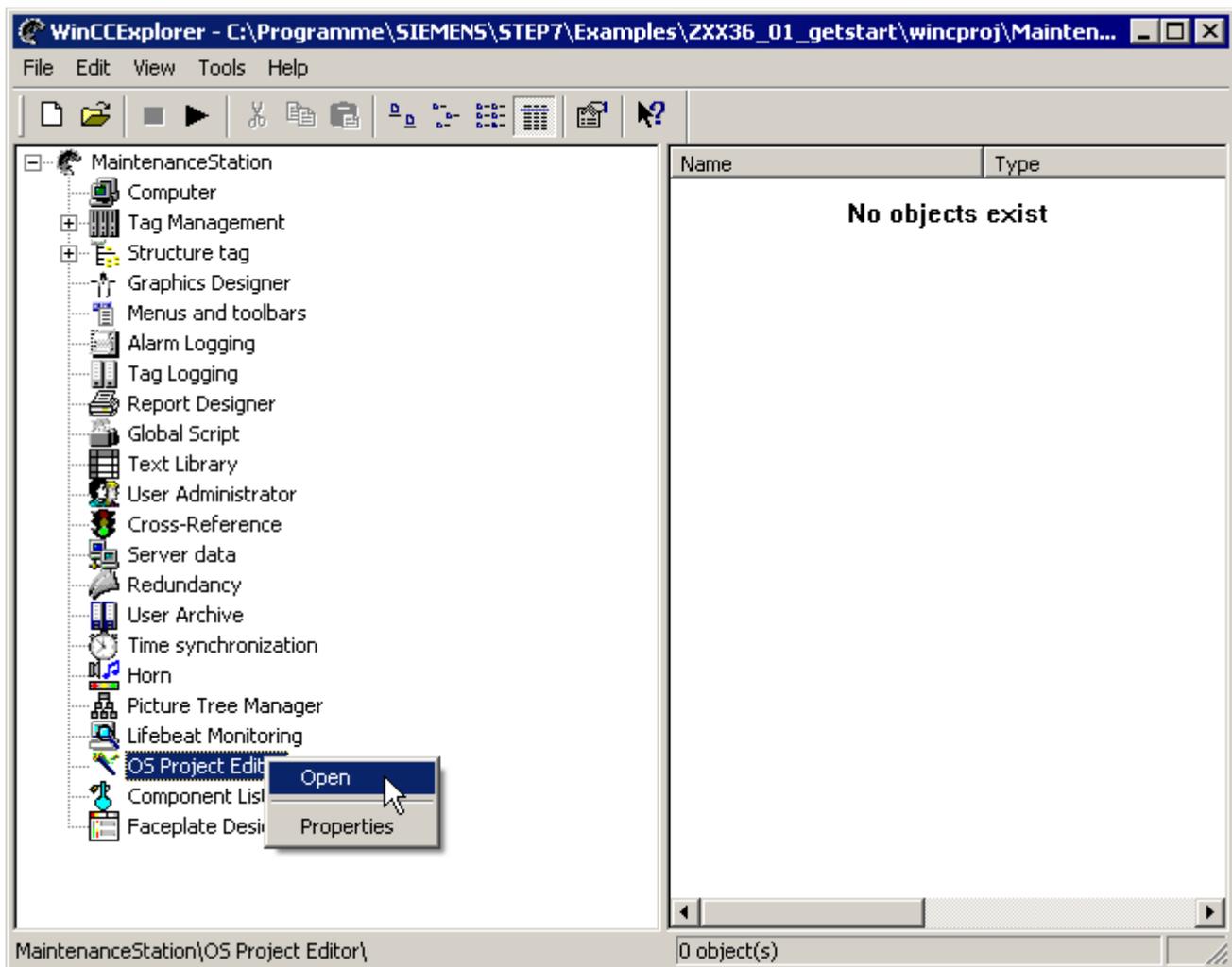
You need to run an initial session of WinCC OS Project Editor in order to configure maintenance station diagnostics within the WinCC project. You define specific diagnostics settings on the PC in the course of this session.

Requirements

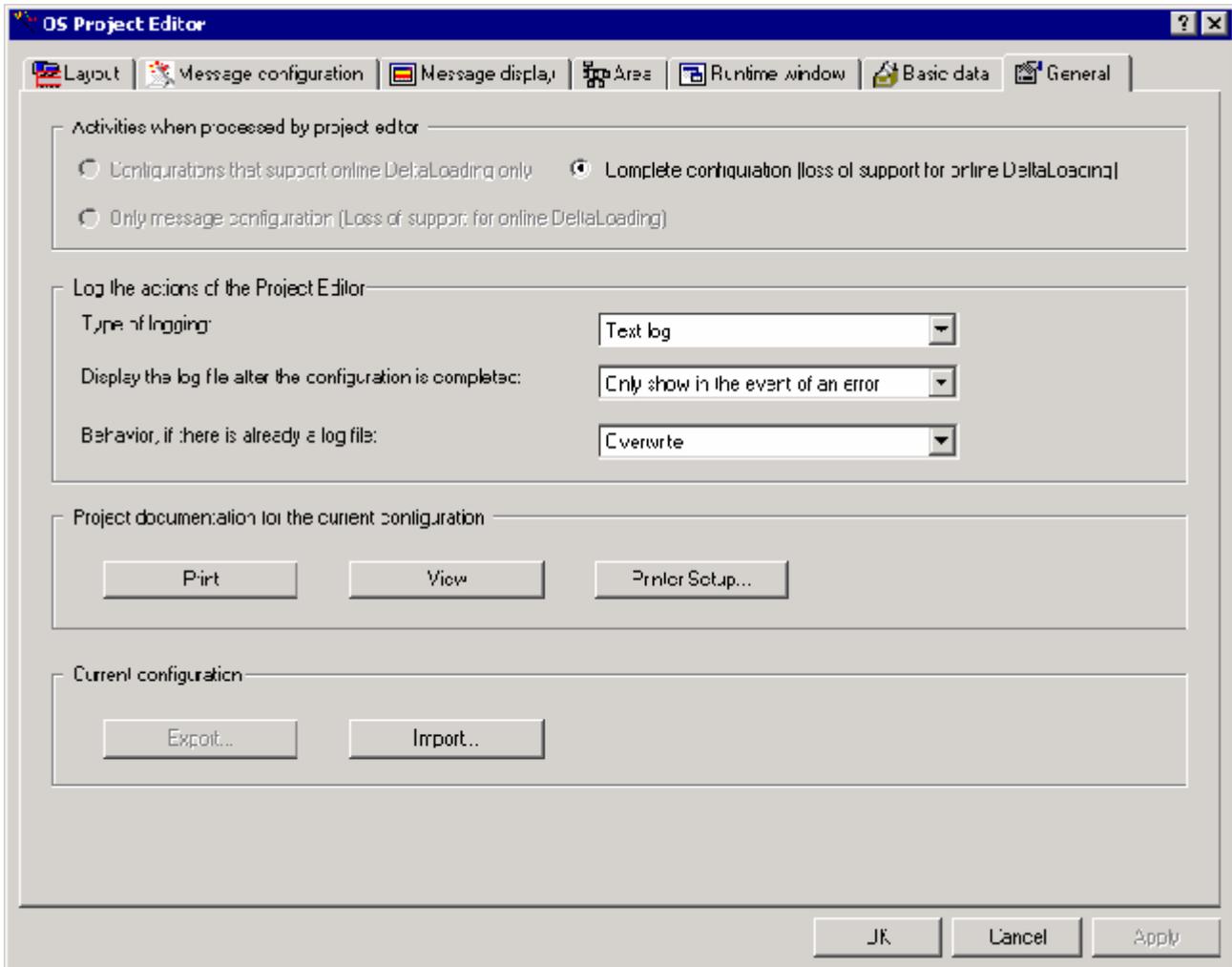
You already renamed the computer in the WinCC project using the name of the current Maintenance Station PC.

Procedure

1. Select and right-click "OS Project Editor" in the navigation window of WinCC Explorer. Select "Open" from the shortcut menu. The "OS Project Editor" dialog box opens.



2. Select the "General" tab. Select the option button "Complete configuration (loss of support for online DeltaLoading)".



3. Click "OK" to confirm your entries. OS Project Editor now configures the project data. OS Project Editor is closed automatically when it has completed this operation.

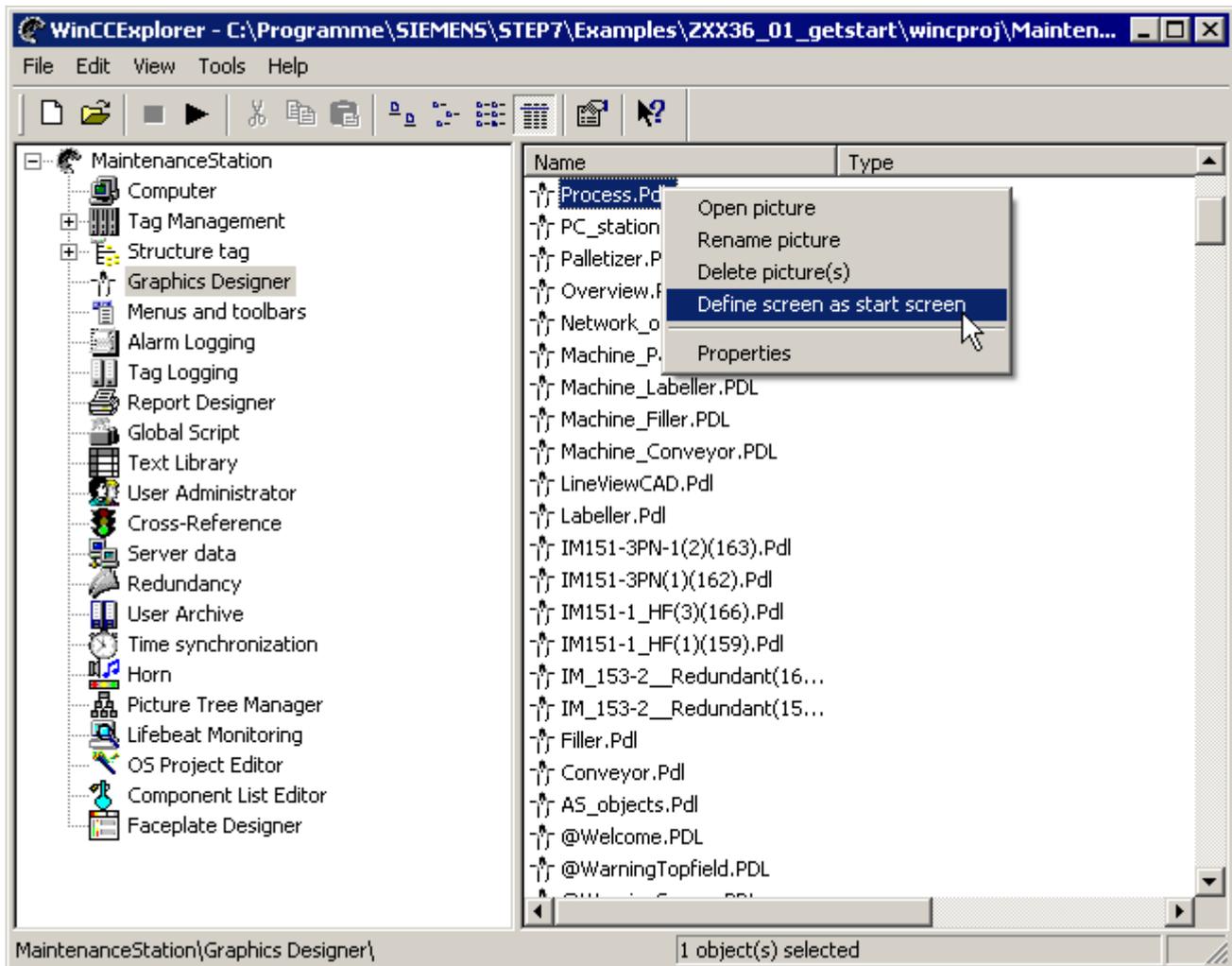
2.2.4 Defining the start screen

Introduction

In this step you define the start screen in the WinCC project. As SIMATIC Maintenance Station is used in the sample project in "Combined" mode, the program should first output the user interface of the process screens after startup.

Procedure

1. Select "Graphics Designer" from the navigation window of WinCC Explorer. The right pane displays all available pictures.
2. Select the "Process.Pdl" picture and then right-click this entry. Select "Define screen as start screen" from the shortcut menu.



2.3 Initial compilation of the project

Introduction

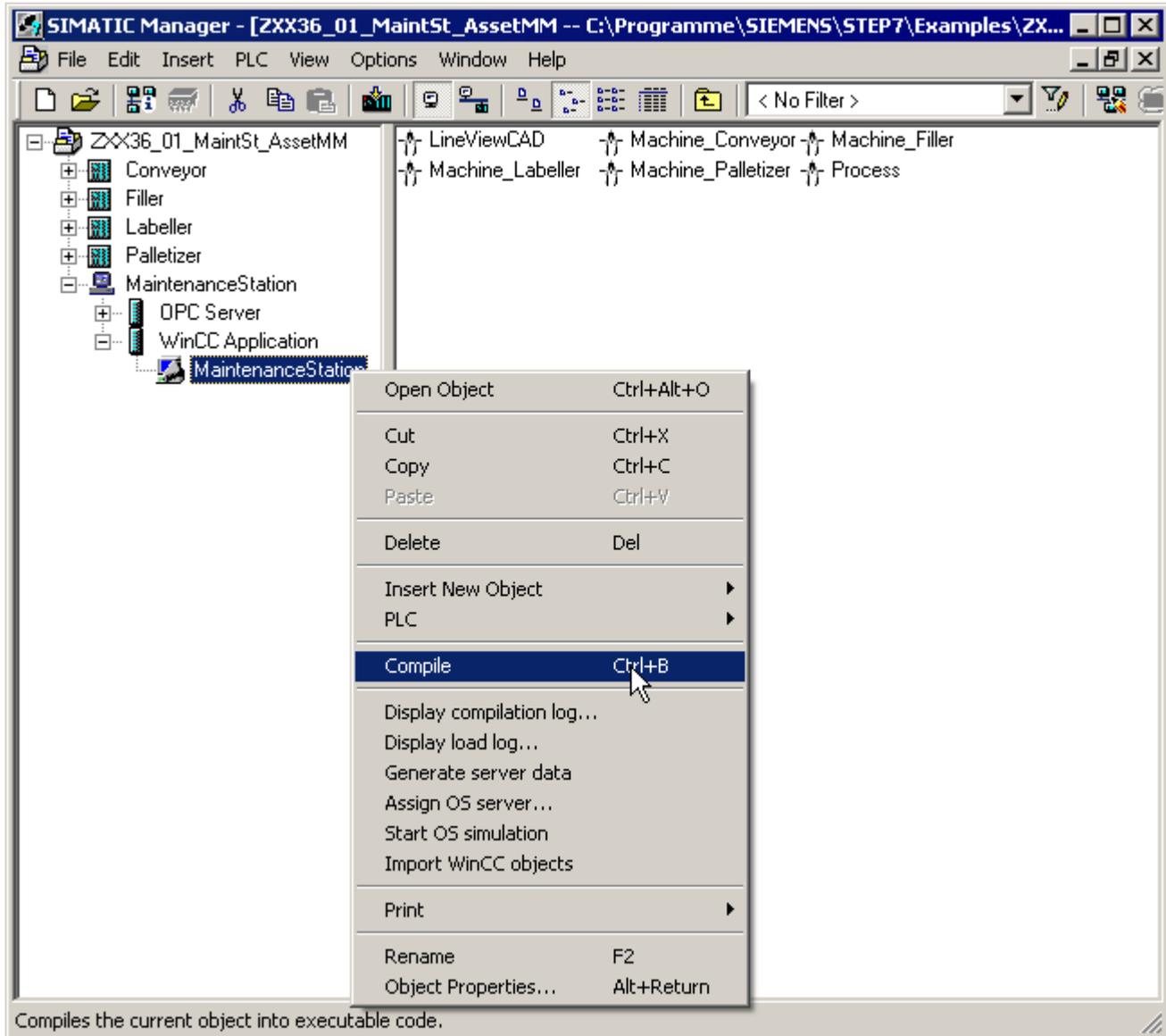
During initial compilation of the Maintenance Station "OS", the program configures certain assignments which are required to create the diagnostics screens.

Requirements

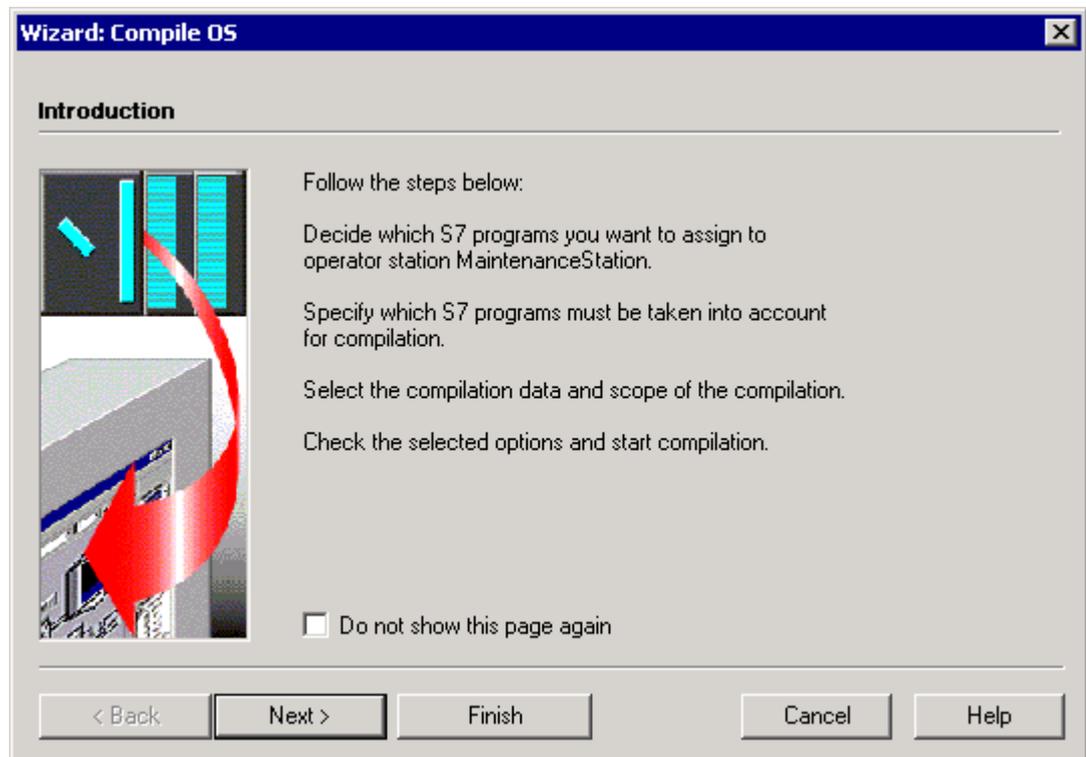
The WinCC project of Maintenance Station must be closed.

Procedure

1. Select the "MaintenanceStation" object from the navigator in SIMATIC Manager, double-click "WinCC Application" and then select the OS symbol named "MaintenanceStation". Right-click this entry, and then select "Compile" from the shortcut menu. The "Wizard: Compile OS" dialog box opens.

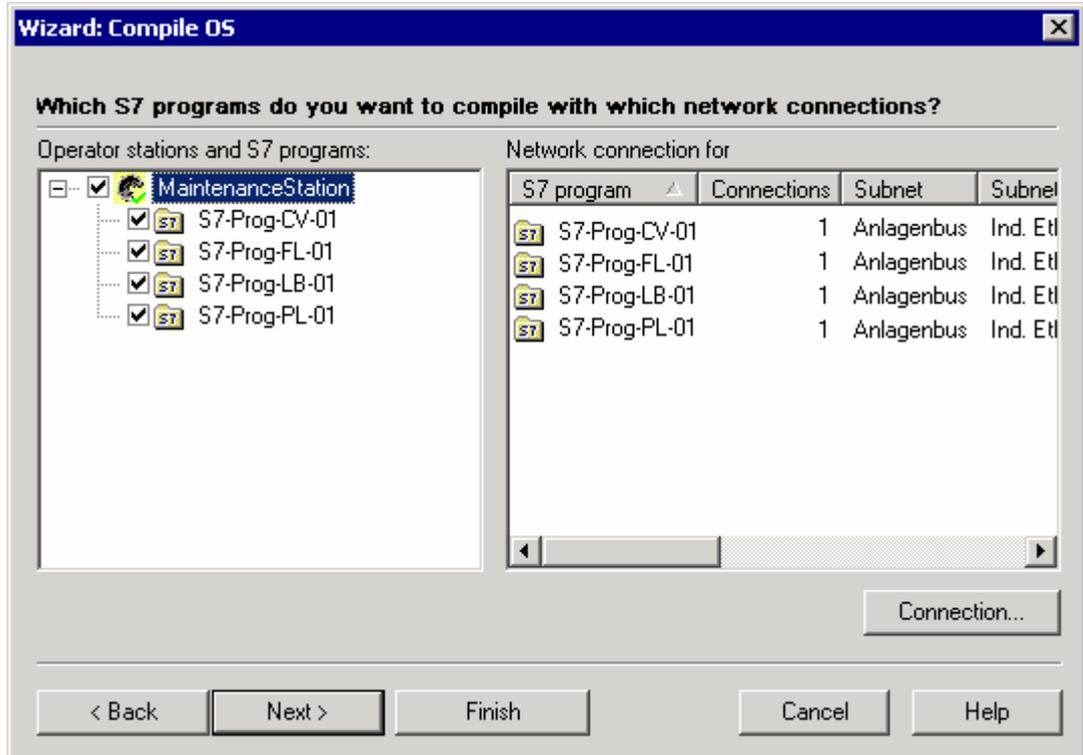


2. Follow the instructions of the Compiler Wizard.
Initial compilation only requires a few steps. Refer to the screenshots below for orientation.
 - Compiler Wizard Step 1/5



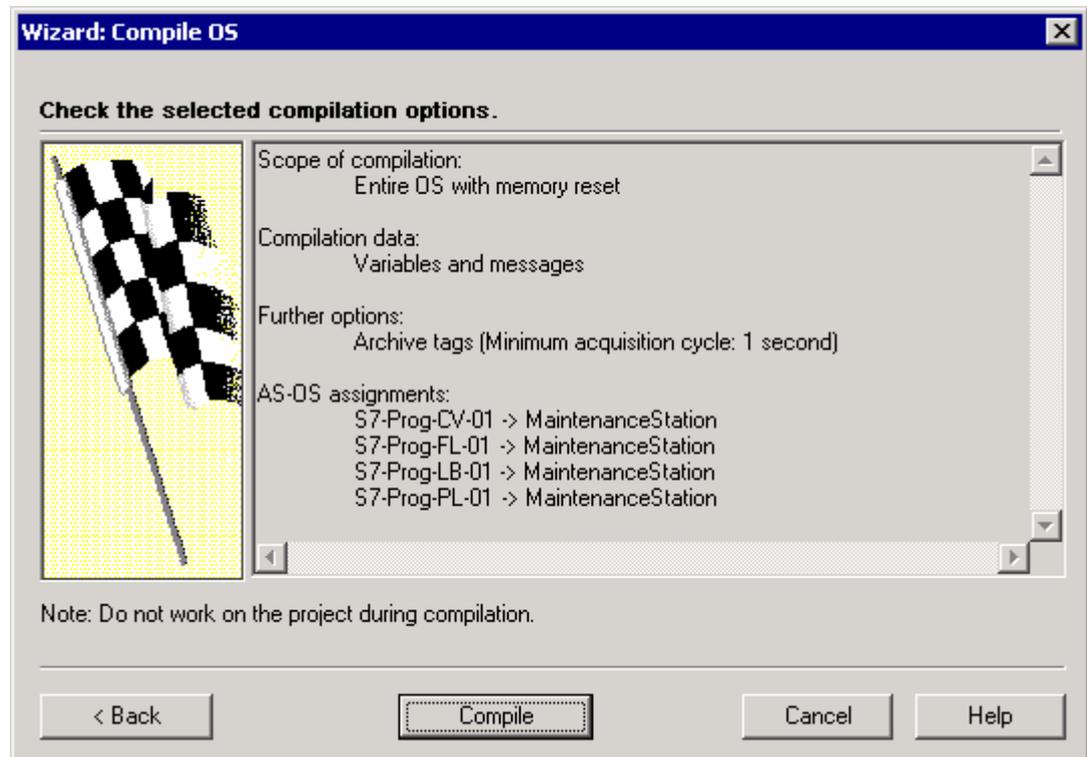
Click "Next".

- Wizard:Compile OS step 2 of 5:
The S7 programs are assigned to the network connections in this step. The wizard assigns all S7 programs in the sample project. Check the setting.



Click "Finish".

- Wizard:Compile OS step 3 of 5:
This dialog box shows all options selected.



3. Start the compilation process by clicking "Compile".
4. The program only displays the "Message Number Assignment Selection" dialog box when you initially compile the data. Set the "Assign CPU-oriented unique message numbers" check box. Confirm the selection with "OK".
5. The program outputs a message when automatic compilation is completed. Confirm this message to close the operation.

2.4 Configuring network components using OPC Server

Introduction

SIMATIC NET SNMP OPC Server is deployed as an optional feature for network component diagnostics using SIMATIC Maintenance Station. SNMP OPC Server also supports diagnostics of SNMP components such as the Optical Switch Module "OSM" and the Electrical Switch Module "ESM".

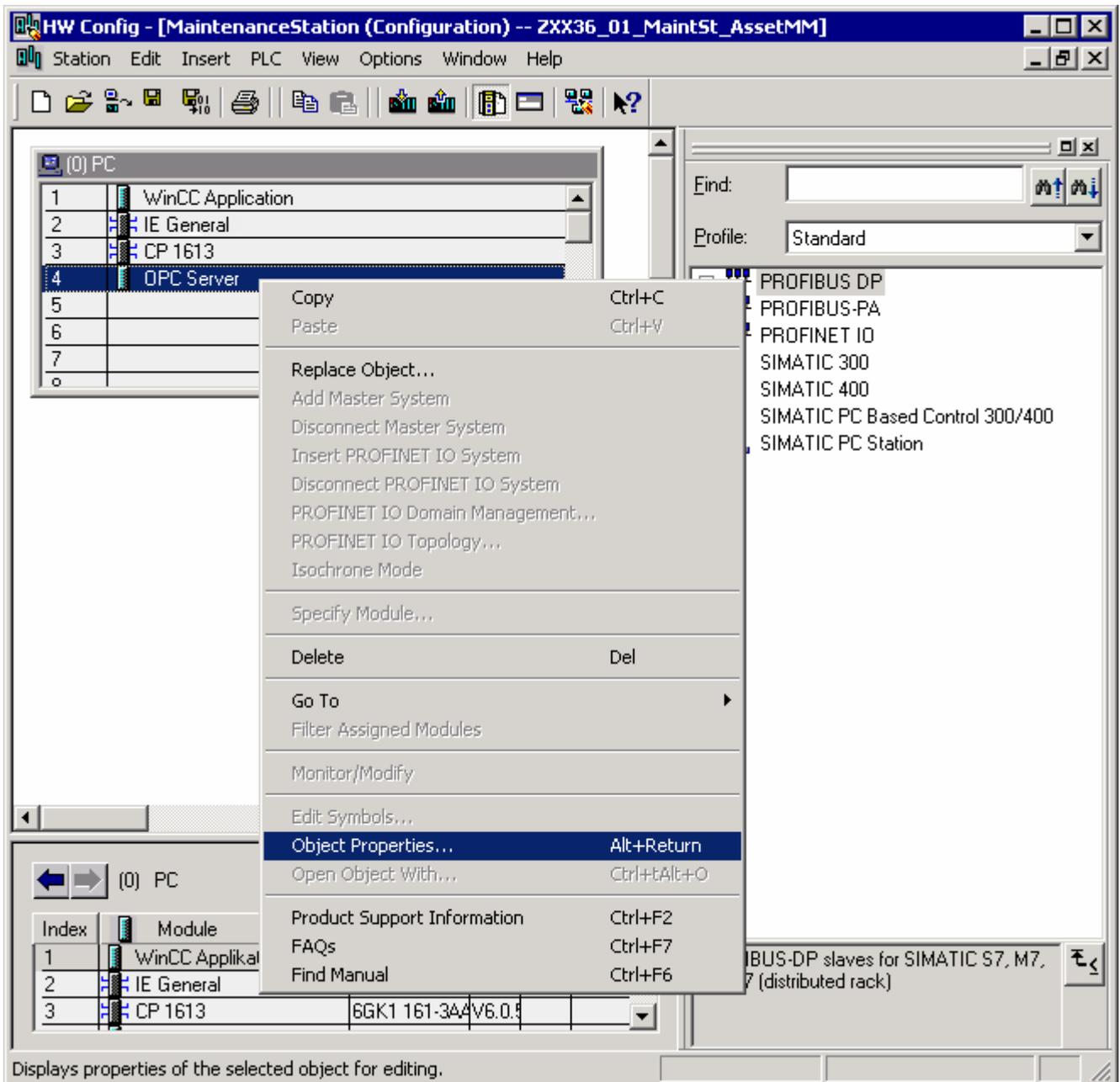
The default sample project does not contain an SNMP component. In the next section, you configure an example of a "ScalanceX204" component. The diagnostics screens visualize this component similar to all SNMP components in the network components overview.

Requirements

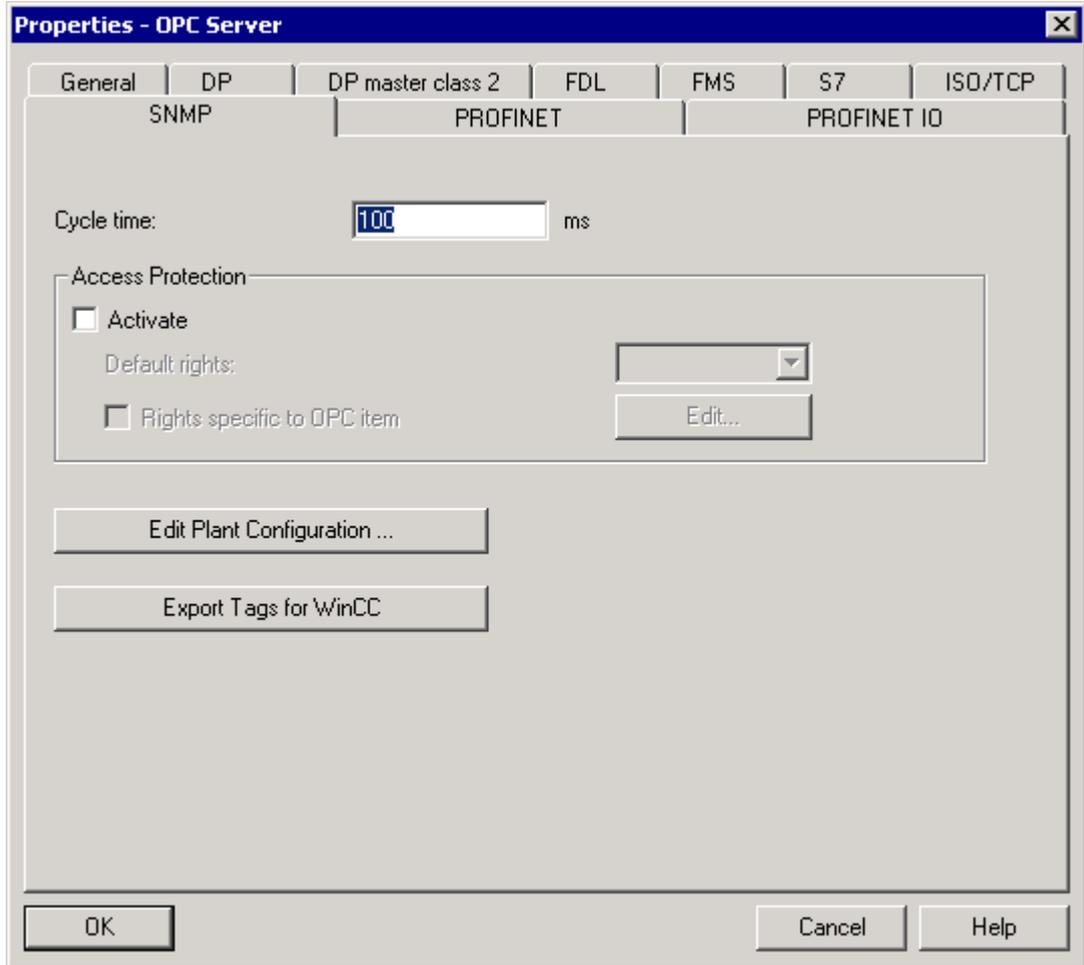
- Run the entire procedure described in the "Open project and prepare OS" chapter.
- SNMP must be activated and configured. To check the SNMP in Microsoft® Windows®:
 - In Microsoft® Windows® XP or Server 2003, select "Start > Settings > Control Panel > Add or Remove Programs". The "Add or Remove Programs" dialog box opens.
 - Select the "Management and Monitoring Tools" from the list of currently available Windows components. Click "Details...". The dialog "Management and Monitoring Tools" is opened.
 - Check the status of the "Simple Network Management Protocol" check box. SNMP is active if this check box is already set. If not set, activate the check box and confirm your entry with "OK". Click "Next >" to start the process.

Procedure

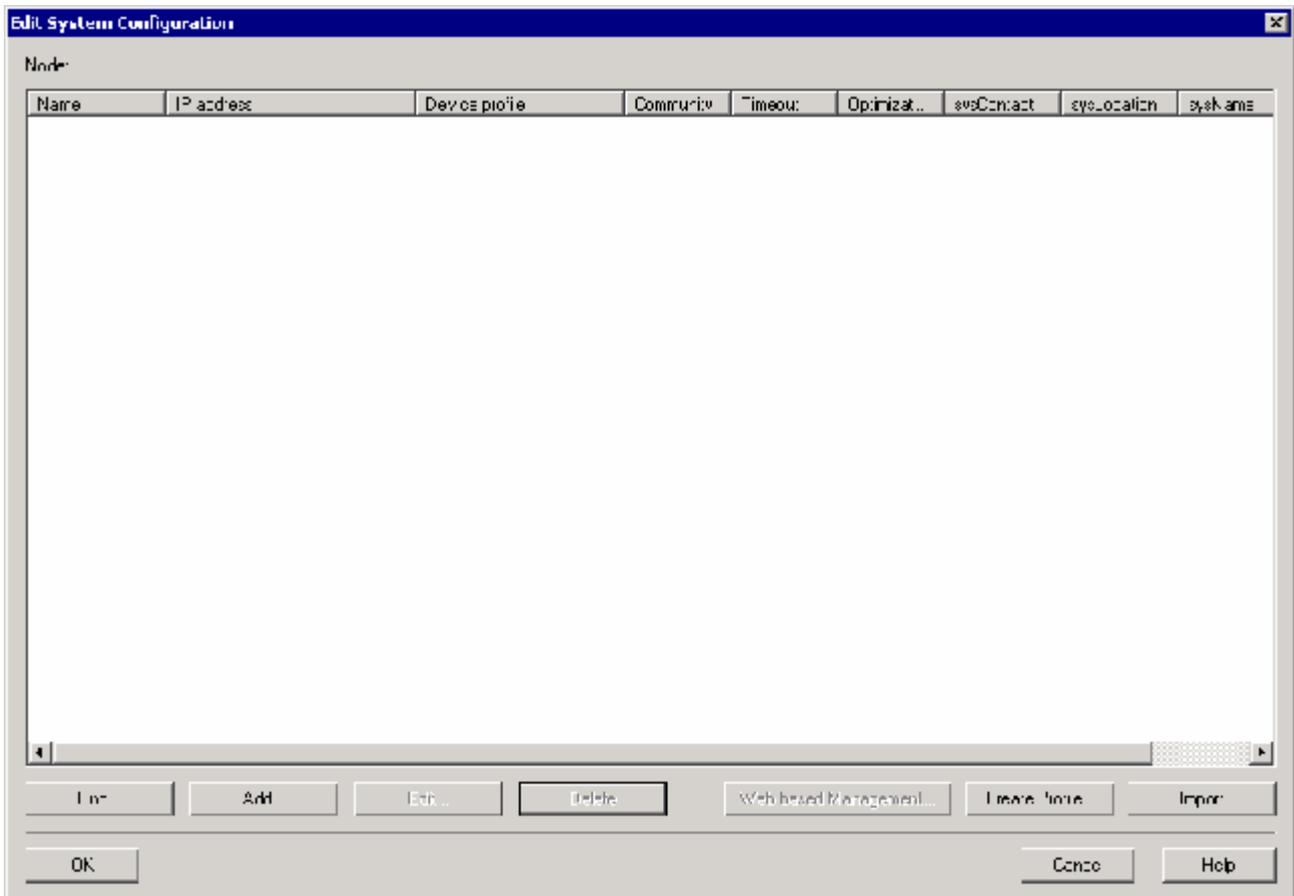
1. Select the icon of the SIMATIC PC station "MaintenanceStation" from the navigator of SIMATIC Manager, and then right-click this entry. Select "Open object" from the shortcut menu. The "HW Config" editor opens.



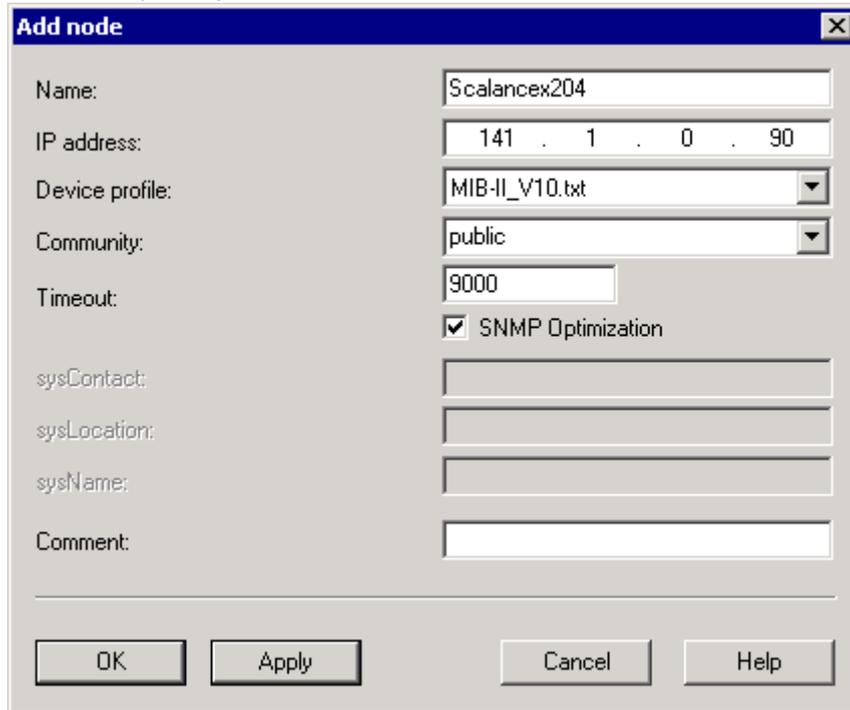
2. Select the "OPC Server" component from the "PC" window, and then right-click this entry. Select "Object properties" from the shortcut menu. The "Properties - OPC Server" dialog box opens.



3. Change to the "SNMP" tab. Click "Edit Plant Configuration...".
The "Edit plant configuration" dialog box opens.



4. Click "Add...". The "Add node" dialog box opens. Enter these data:
 - "Name:" input box: Node name, for example, "ScalanceX204".
 - "IP address:" input box: The correct node IP address, for example, "141.1.0.90".
 - "Device profile:" drop-down list: Select the file "MIB-II_V10.txt".
 - "Community:" drop-down list: Select "Public".



5. Click "OK" to confirm your entries. Close the "Edit plant configuration" dialog box by clicking "OK".
6. Select "Export tags for WinCC" from the "Properties - OPC Server" dialog box. The program starts the export and outputs a progress bar. A corresponding message is output when the operation is completed.
7. Confirm this message. Click "OK" to close the "Properties - OPC Server" dialog.
8. Save your changes by clicking "Station > Save". Close the "HW Config" editor by selecting "Station > Close".

2.5 Diagnostics screens: Setting parameters and creating screens

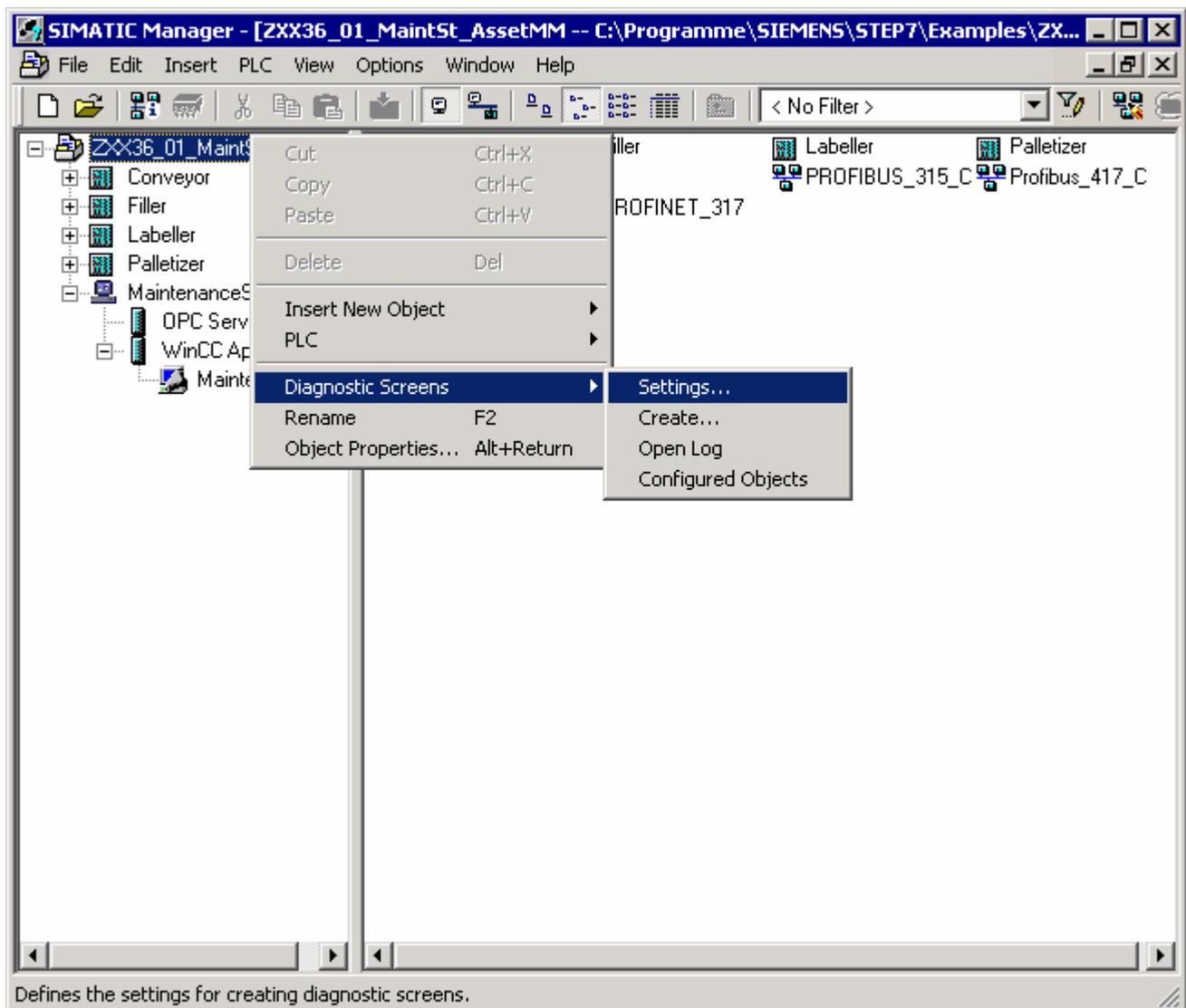
Introduction

The diagnostics screens of SIMATIC Maintenance Station are used to visualize diagnostics messages and the status of components, and to manage maintenance tasks.

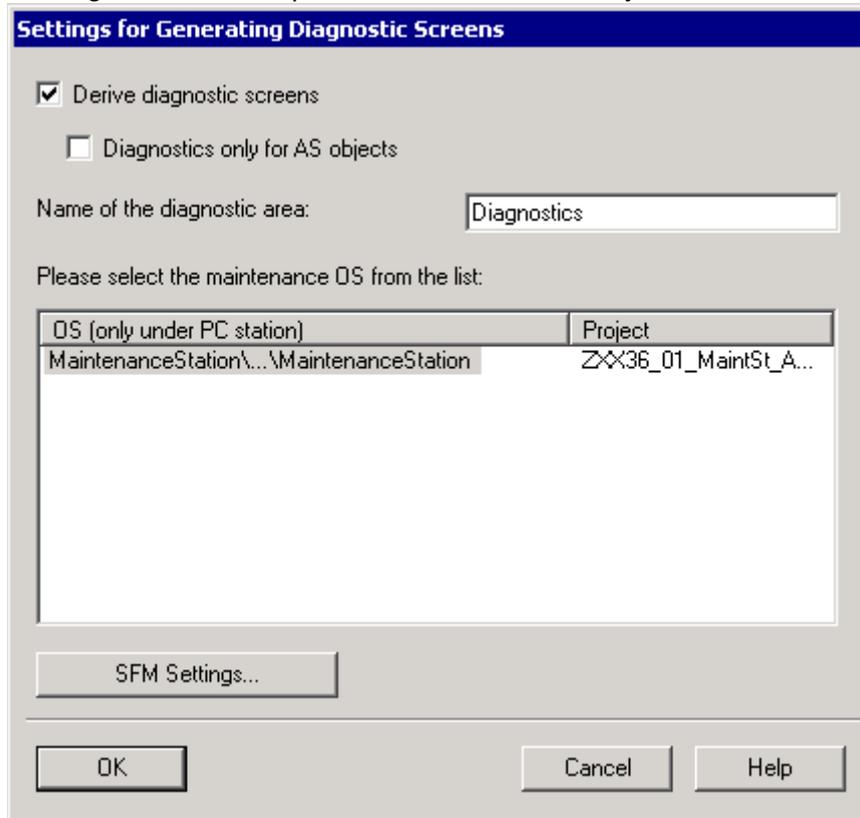
The diagnostics screens are not generated automatically after installation of the SIMATIC Maintenance Station software. You need to make certain settings before you generate the diagnostics screens.

Procedure

1. Select the "ZXX36_01_MaintSt_AssetMM" project from the navigator in SIMATIC Manager, and then right-click this entry. Select "Diagnostics screens > Settings..." from the shortcut menu. The "Settings for Generating Diagnostic Screens" dialog box is opened.



2. Activate the "Derive diagnostics screens:" check box and enter a name in the "Name of the diagnostics area:" input box. You can choose any name.

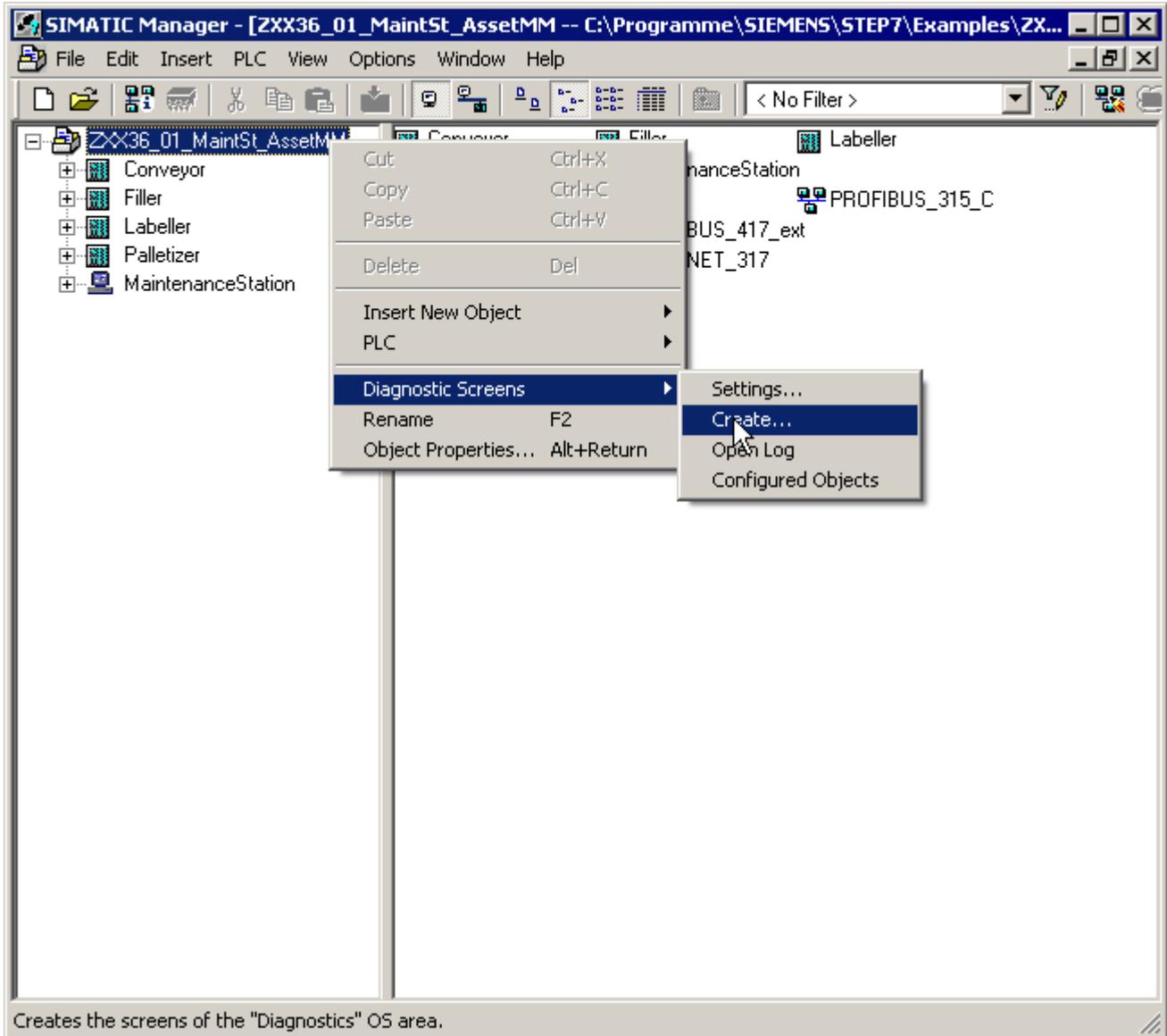


You can ignore the selection list in the sample project, as the configuration only contains one PC station.

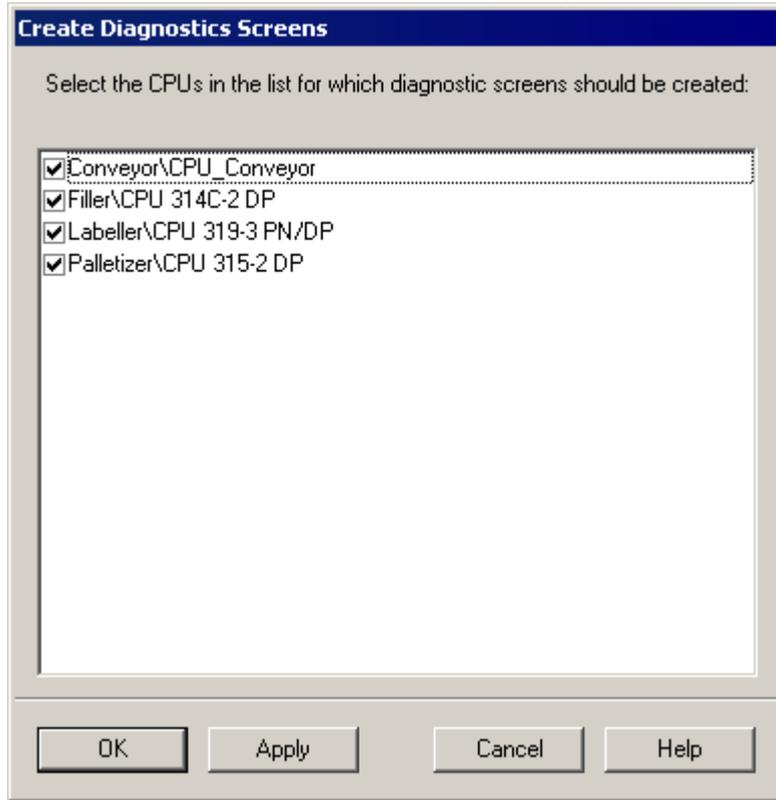
You can open a dialog box for advanced settings by clicking "SFM Settings... ". Provided you do not explicitly define other settings in this dialog, however, this is not necessary for the sample project, as specific default settings are used in this project to create the diagnostics screens.

3. Click "OK" to confirm your changes. A message is displayed to inform you that the capability of loading changes to the OS, the so-called online delta loading, will be lost. Confirm the entry by clicking "OK".

4. Select the "ZXX36_01_MainSt_AssetMM" project from the left pane of SIMATIC Manager, and then right-click this entry. Select "Diagnostics screens > Create diagnostics screens..." from the shortcut menu.



The "Create Diagnostics Screens" dialog box opens.



5. The dialog box returns a list of automation systems for which you should generate diagnostics screens. Select all automation systems of the sample project by setting the corresponding check box, and then confirm your entries with "OK". The program starts generation.
6. The system outputs a message when generation is completed. You can view the generation log.

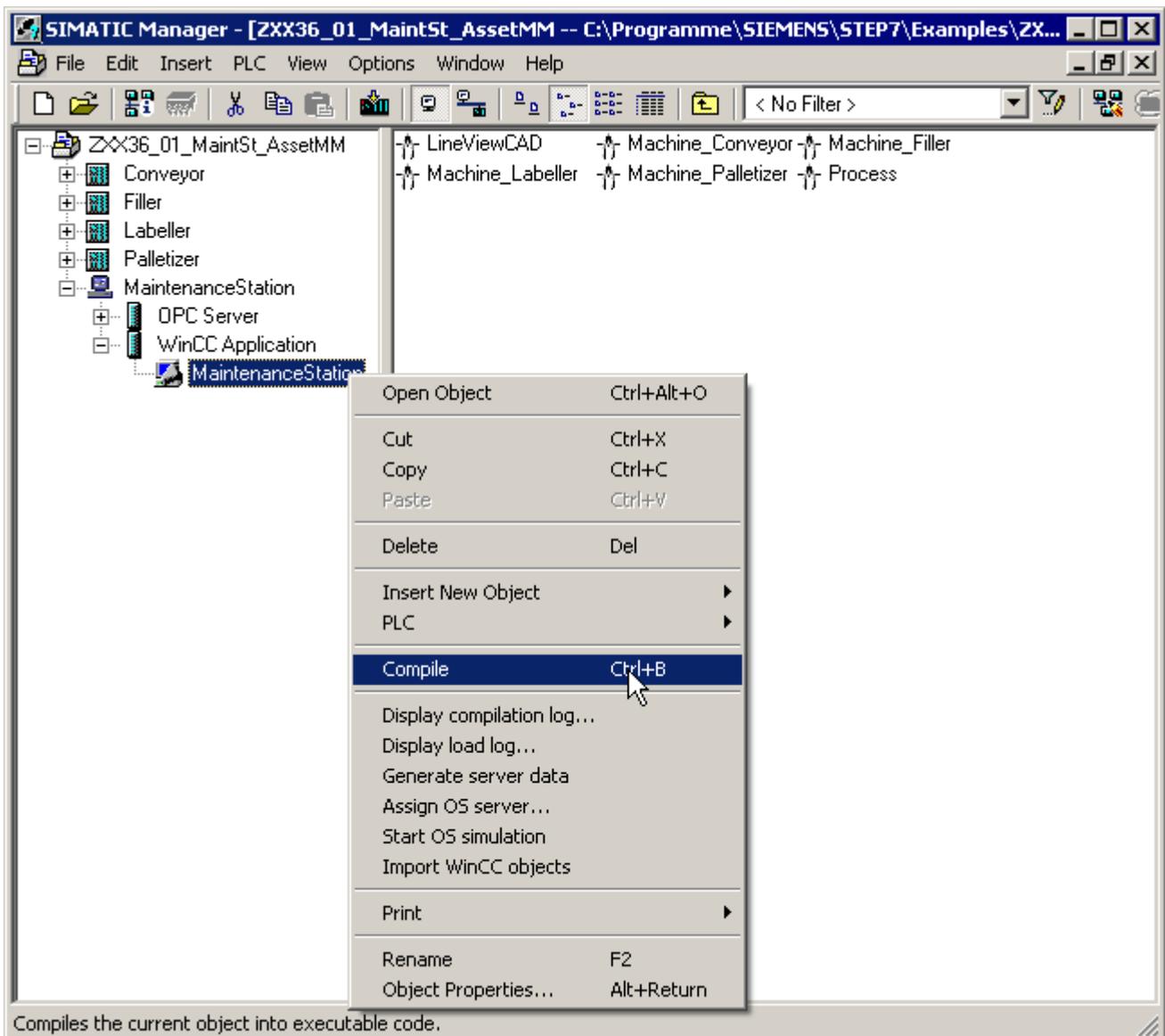
2.6 Compiling the project

Introduction

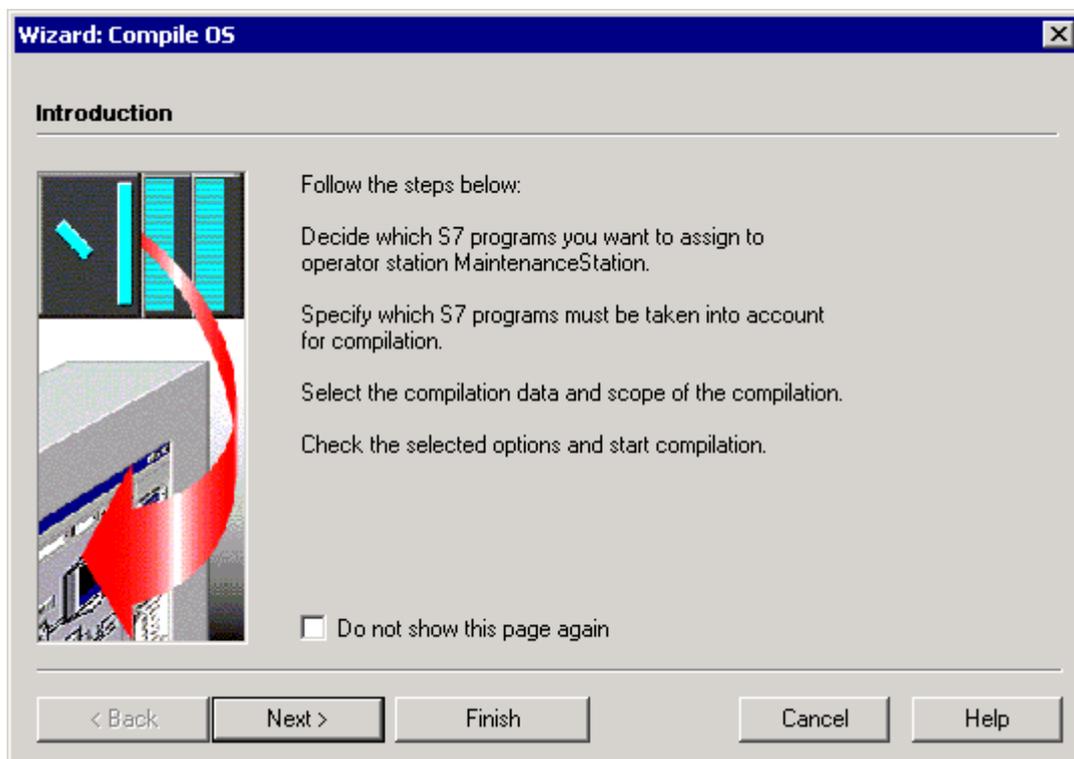
The SIMATIC Maintenance Station "OS" is once again compiled after the diagnostics screens were created in order to generate certain assignments for the S7 project.

Procedure

1. Select the "MaintenanceStation" object from the navigator in SIMATIC Manager, double-click "WinCC Application" and then select the OS symbol named "MaintenanceStation". Right-click this entry, and then select "Compile" from the shortcut menu. The "Wizard: Compile OS" dialog box opens.

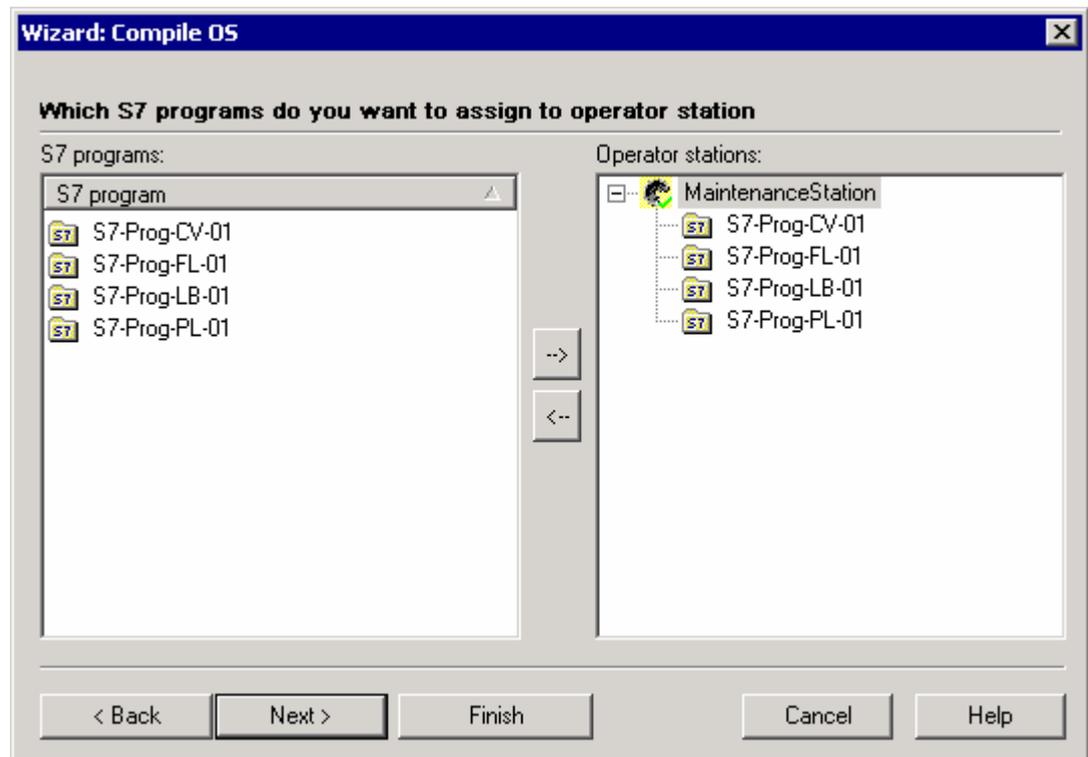


2. Follow the instructions of the Compiler Wizard. You can set up compilation and the options in five steps. Refer to the screenshots below for orientation.
 - Compiler Wizard Step 1/5



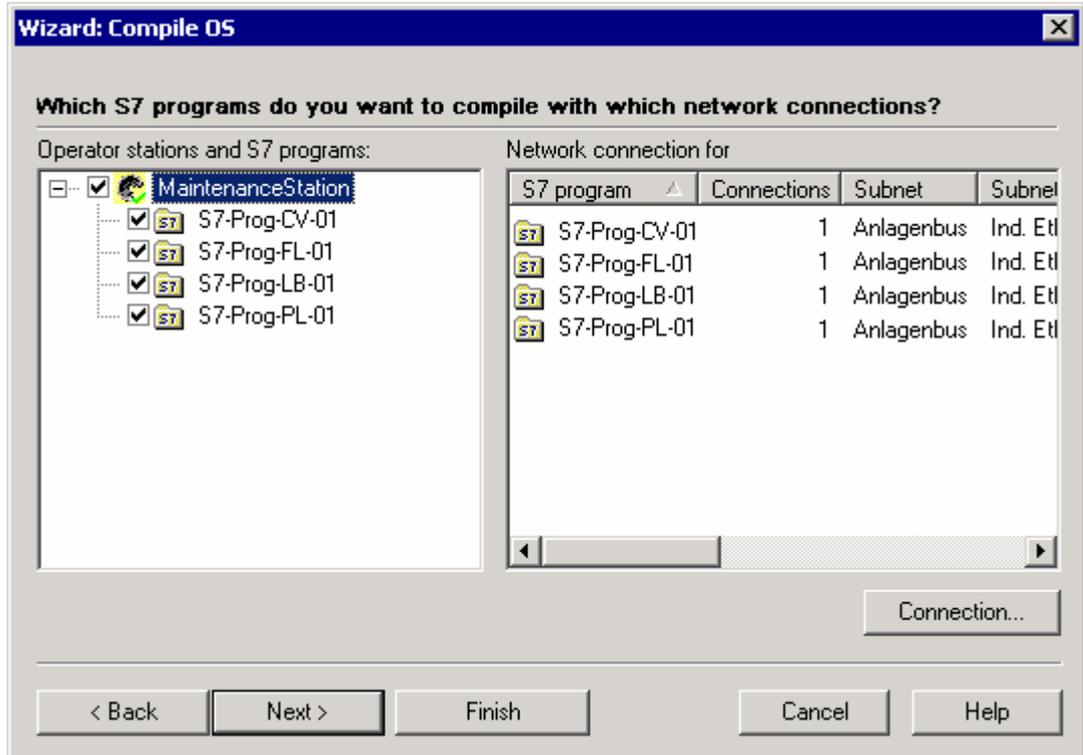
Click "Next".

- Wizard:Compile OS step 2 of 5:
This step is only shown if the PC station / OS was compiled previously.
In this step, you assign the S7 programs to an Operator Station. If, as in the sample project, there is only one PC station / OS and there is no further WinCC server, all the programs are assigned automatically to this OS.



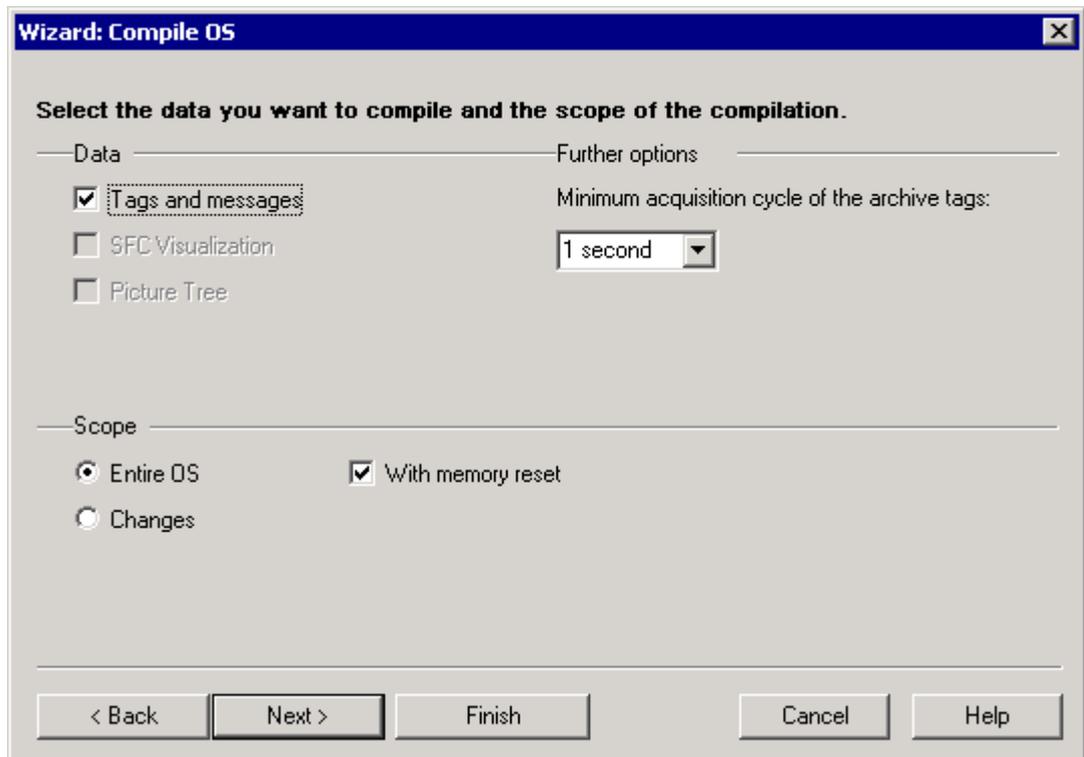
Click "Next".

- Wizard: Compile OS step 3 of 5:
The S7 programs are assigned to the network connections in this step.
All S7 programs are assigned in the sample project. Check the setting.



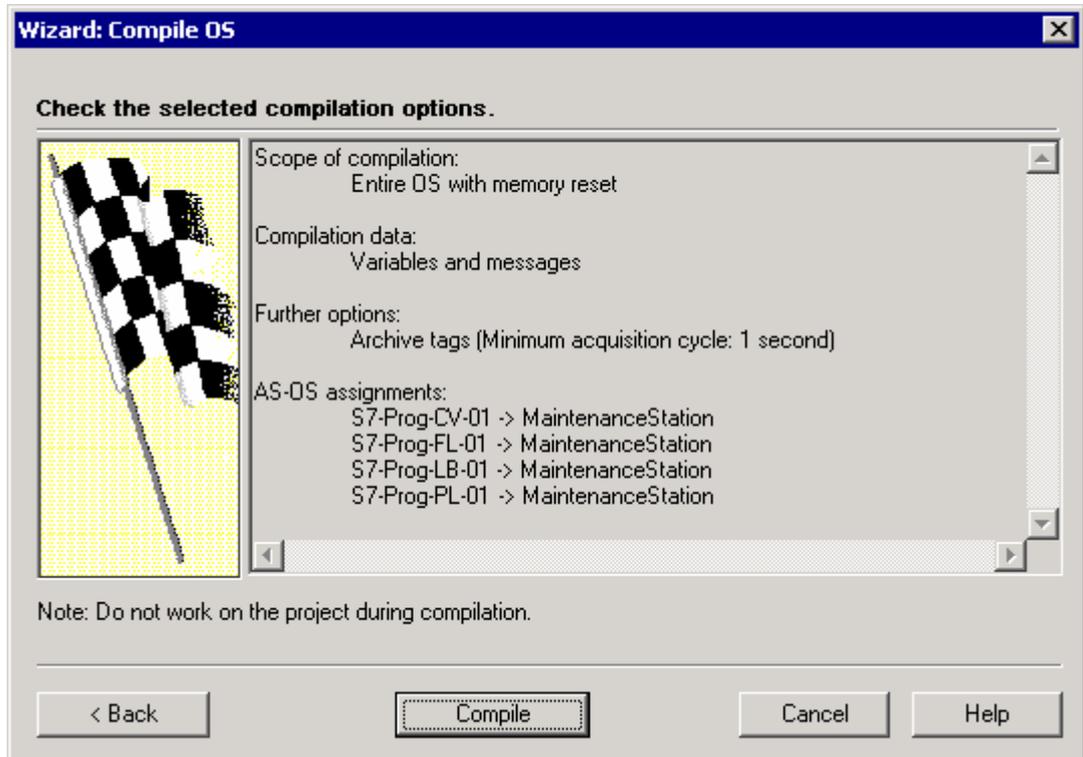
Click "Next".

- Compiler Wizard Step 4/5:
The data and scope of compiling are specified in this dialog box.



Leave the default settings unchanged.
Click "Next".

- Wizard: Compile OS step 5 of 5:
This dialog box shows all options selected.



3. Start the compilation process by clicking "Compile".
A message is displayed after the automatic compiling process has been completed.
Confirm this message to close the operation.

Note

In the Getting Started it is assumed that the engineering and the diagnostics with the Maintenance Station take place on the same PC.
If you are running the diagnostics and engineering on different PCs, transfer the diagnostics screens to the PC which is used to visualize diagnostics data. Select the "MaintenanceStation" OS from the navigation window. Select "PLC > Download" from the shortcut menu. If the program returns the error message "No path to Runtime OS selected", select the corresponding PC from the "Path to target OS station" field in the "Properties -OS" dialog box of the Maintenance Station.
After changing the target path, you have to recreate the diagnostic screens, recompile the "OS" of the Maintenance Station and repeat the download process.

Usually, you have to download the diagnostics blocks you generated to the corresponding automation systems in order to complete your configuration. Use the "PLC > Compile and download objects" function from the shortcut menu of a selected AS.
This step is discarded in the sample project, as the configured AS are only used as examples and may not correspond with your plant configuration.

2.7 Setup and configuration of the user interfaces

Configuring the change between user interfaces

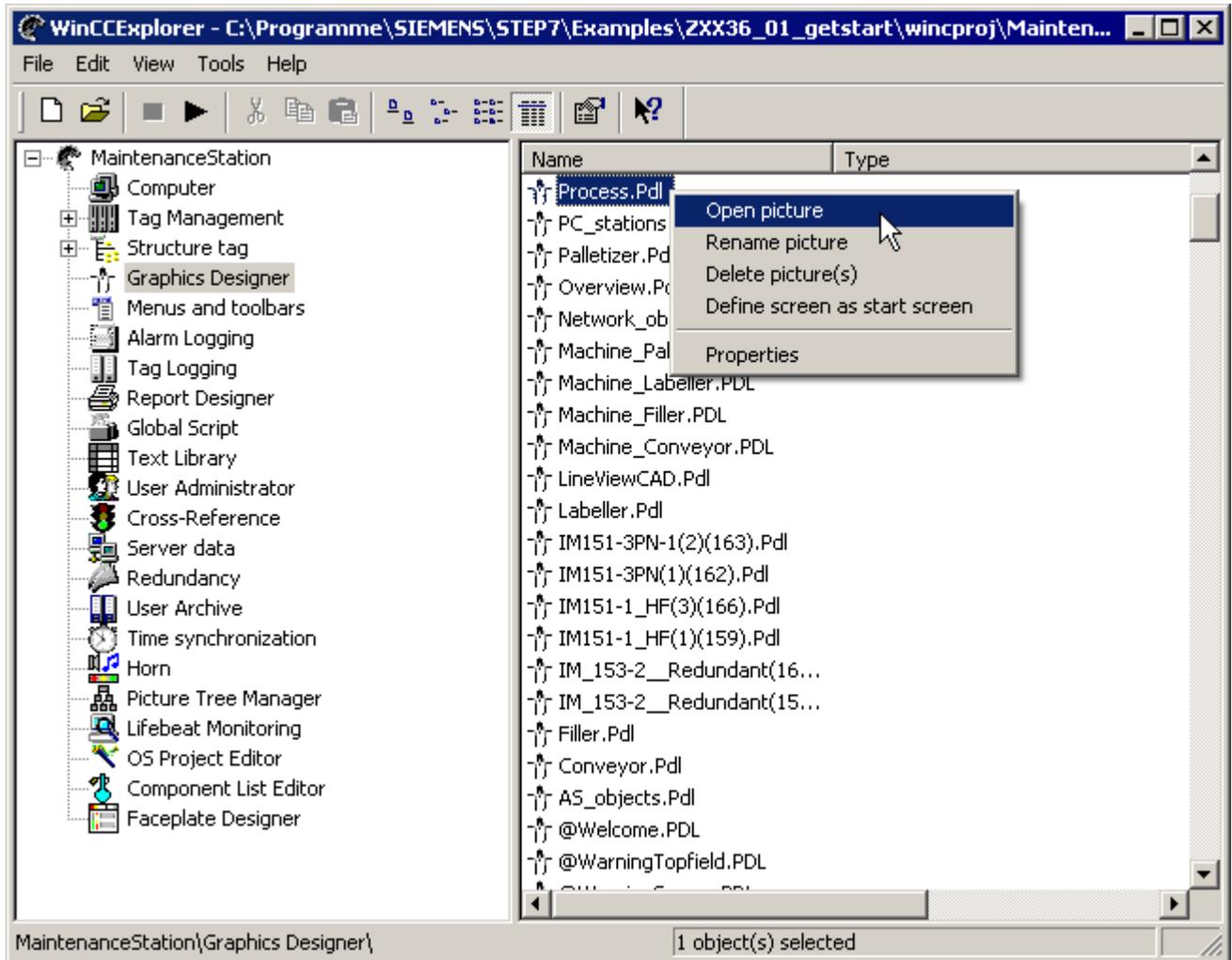
A link must be implemented on each user interface of the process screens and of SIMATIC Maintenance Station to allow users to change between these interfaces in the diagnostics. This link is implemented on both interfaces by means of a button function.

Inserting a button on the user interface of the process screens

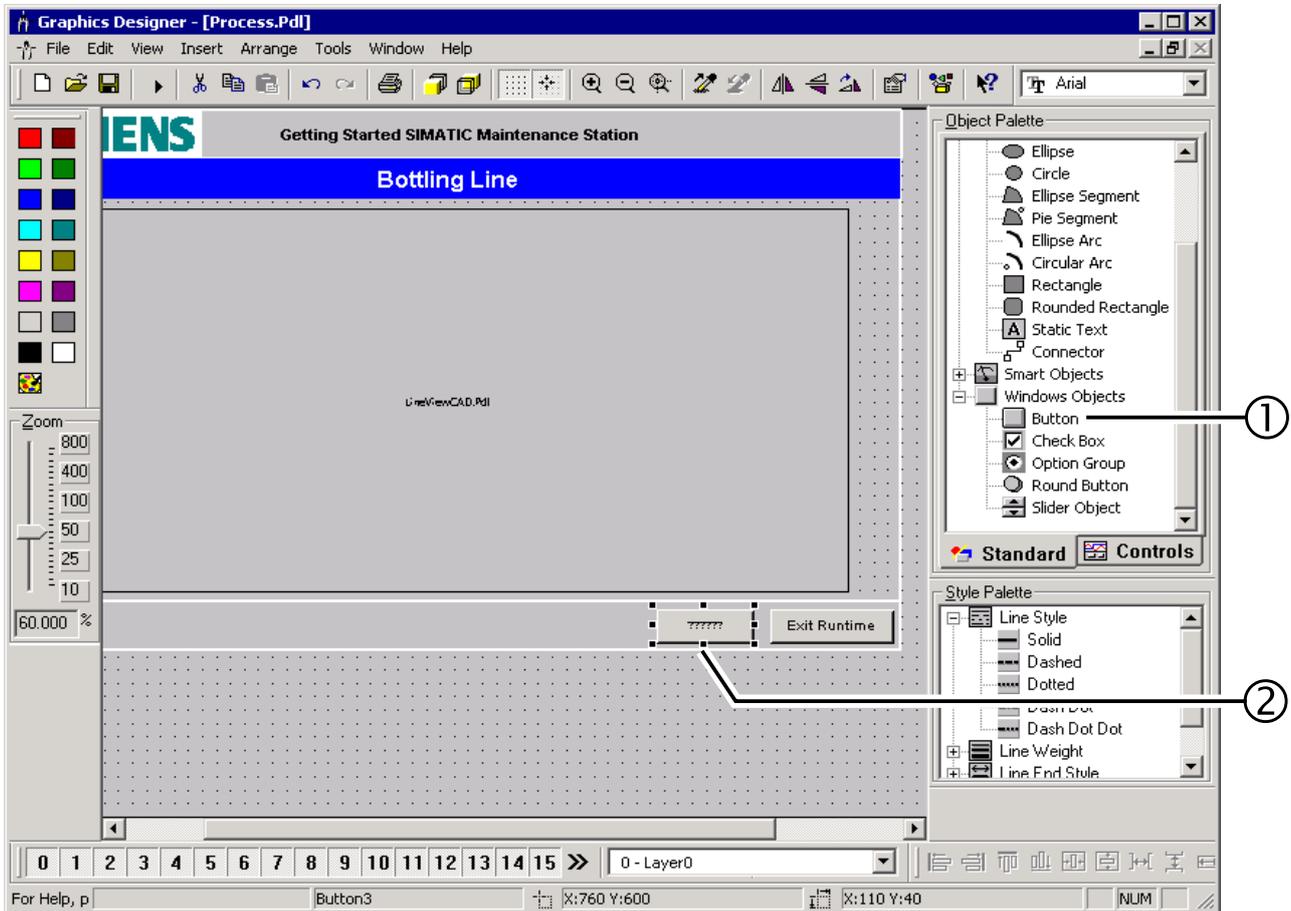
1. Select the "MaintenanceStation" object from the navigator in SIMATIC Manager, double-click "WinCC Application" and then select the OS symbol named "MaintenanceStation". Right-click the entry, and then select "Open Object" from the shortcut menu. The WinCC project opens.

2.7 Setup and configuration of the user interfaces

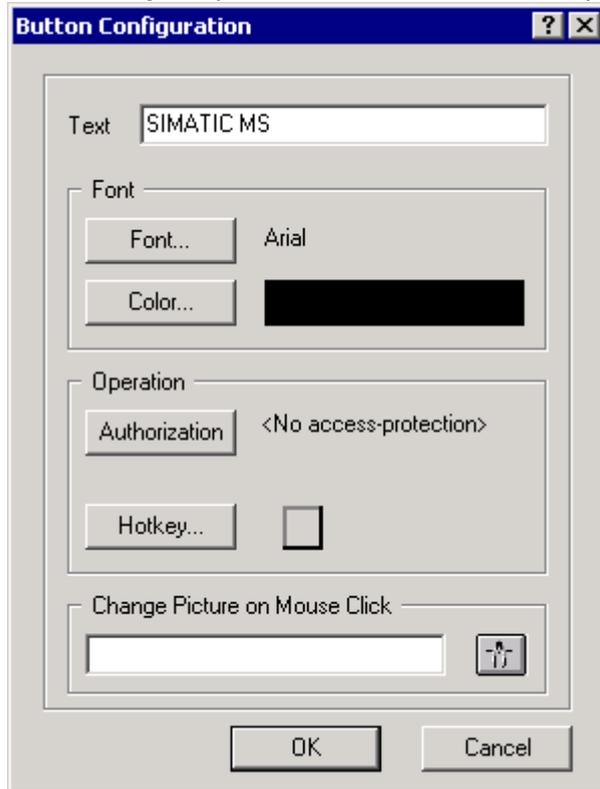
- 2. Select "Graphics Designer" from the navigation window of WinCC Explorer. The right pane shows the available pictures. Select the "Process.Pdl" picture and then right-click this entry. Select "Open picture" from the shortcut menu. The picture is opened in the Graphics Designer.



3. Select the "Windows objects" in the object toolbox and select the "Button" object (1). Click on the desired position in a free area on the picture and drag the button (2) to its desired size.



4. After you inserted the button, the program automatically open the "Button Configuration" dialog box. Assign a name such as "SIMATIC MS" at the "Text" input box. In this dialog box you can define other font and operation properties for the button.

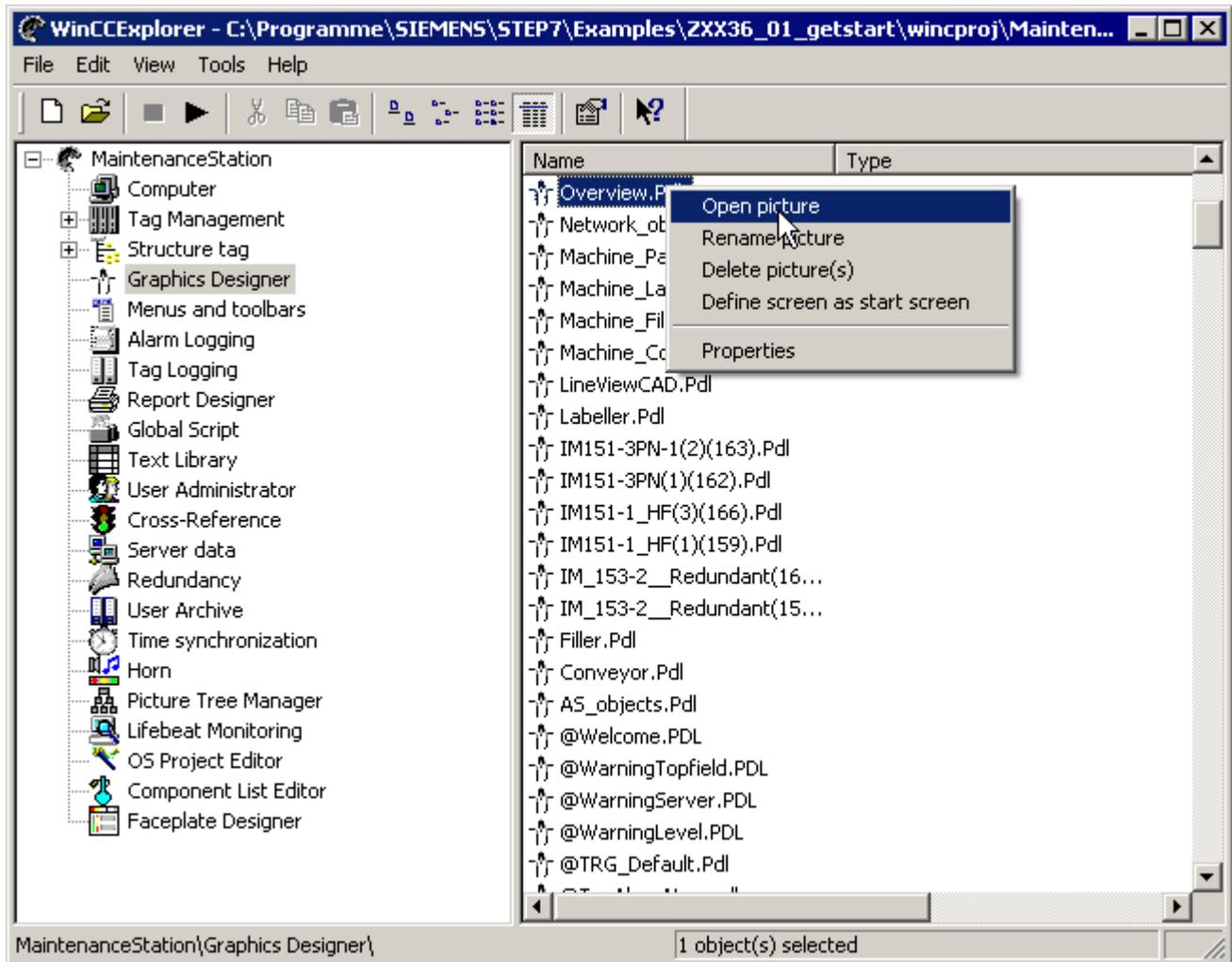


Enter the screen name "@screen.Pdl" in the input box in the "Change Picture on Mouse Click" area. This object represents the start screen of the Maintenance Station user interface.

5. Close the dialog box with "OK".
6. Save the screen by clicking "File > Save". Close Graphics Designer by clicking "File > Exit".

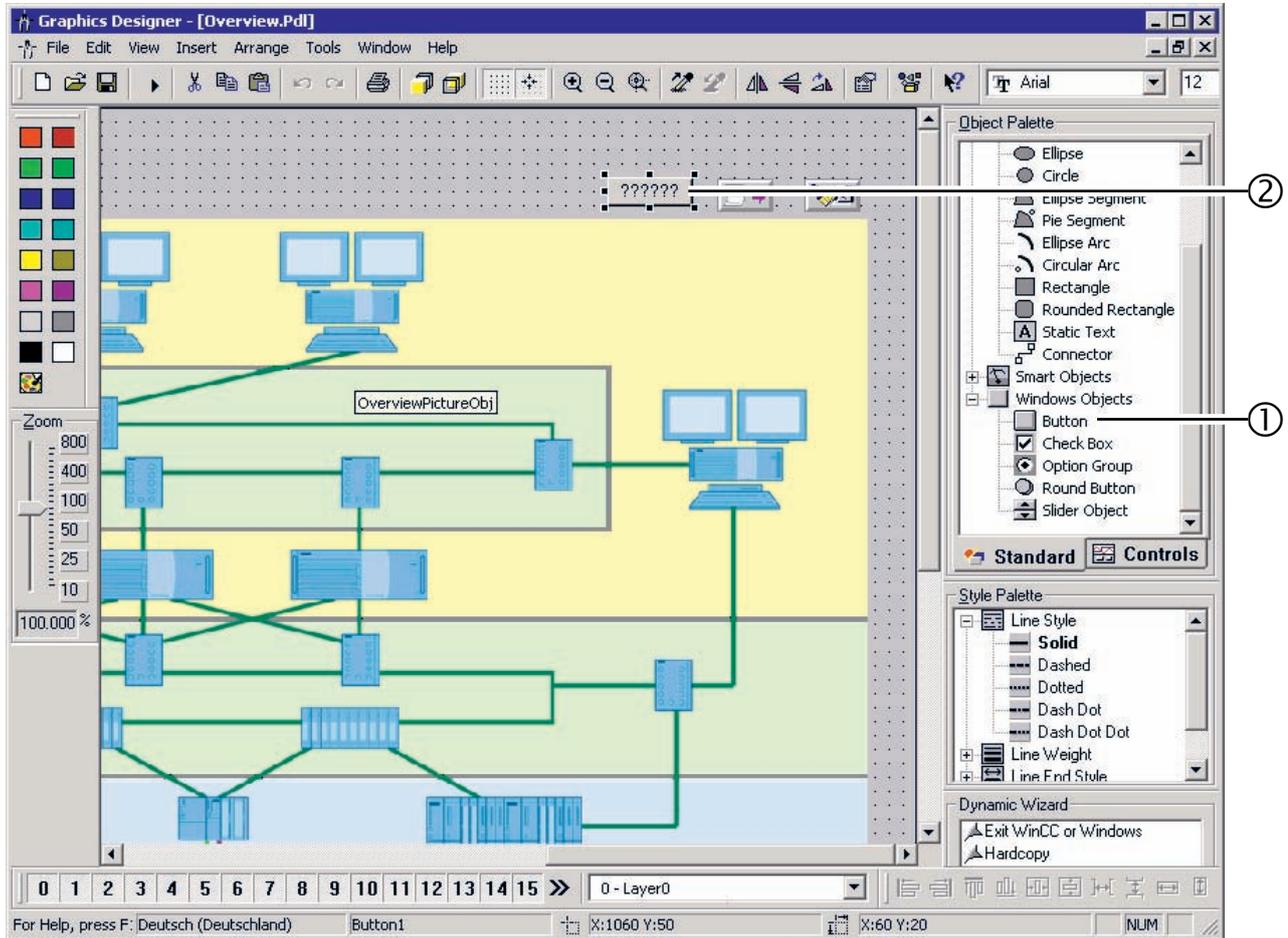
Inserting a button on the user interface of SIMATIC Maintenance Station

1. Select "Graphics Designer" from the navigation window of WinCC Explorer. The right pane shows the available pictures. Select the "Uebersicht.Pdl" picture and then right-click this entry. Select "Open picture" from the shortcut menu. The picture is opened in the Graphics Designer.

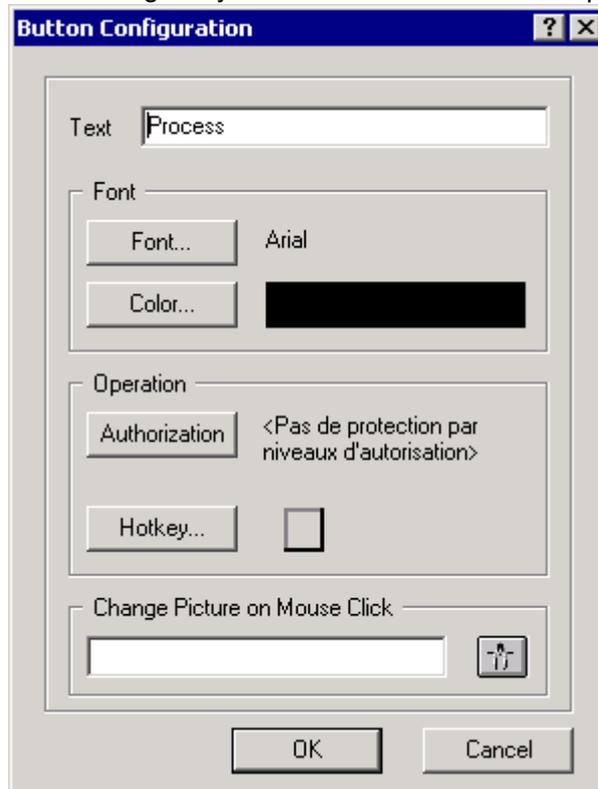


2.7 Setup and configuration of the user interfaces

2. Select the "Windows Objects" in the object toolbox and select the "Button" object (1). Click on the desired position in a free area on the picture and drag the button (2) to its desired size.



3. After you inserted the button, the program automatically open the "Button Configuration" dialog box. Assign a name such as "Process" at the "Text" input box. In this dialog box you can define other font and operation properties for the button.

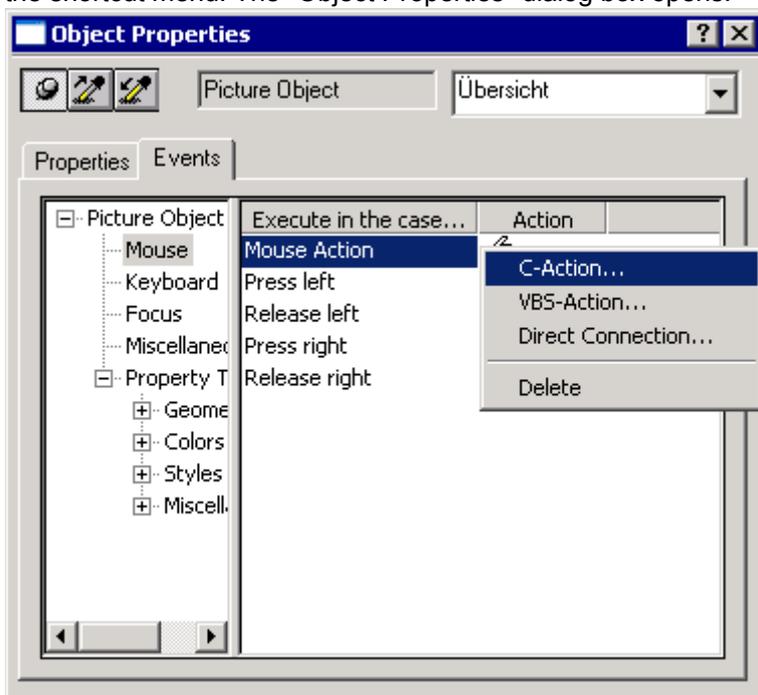


Close the dialog box with "OK".

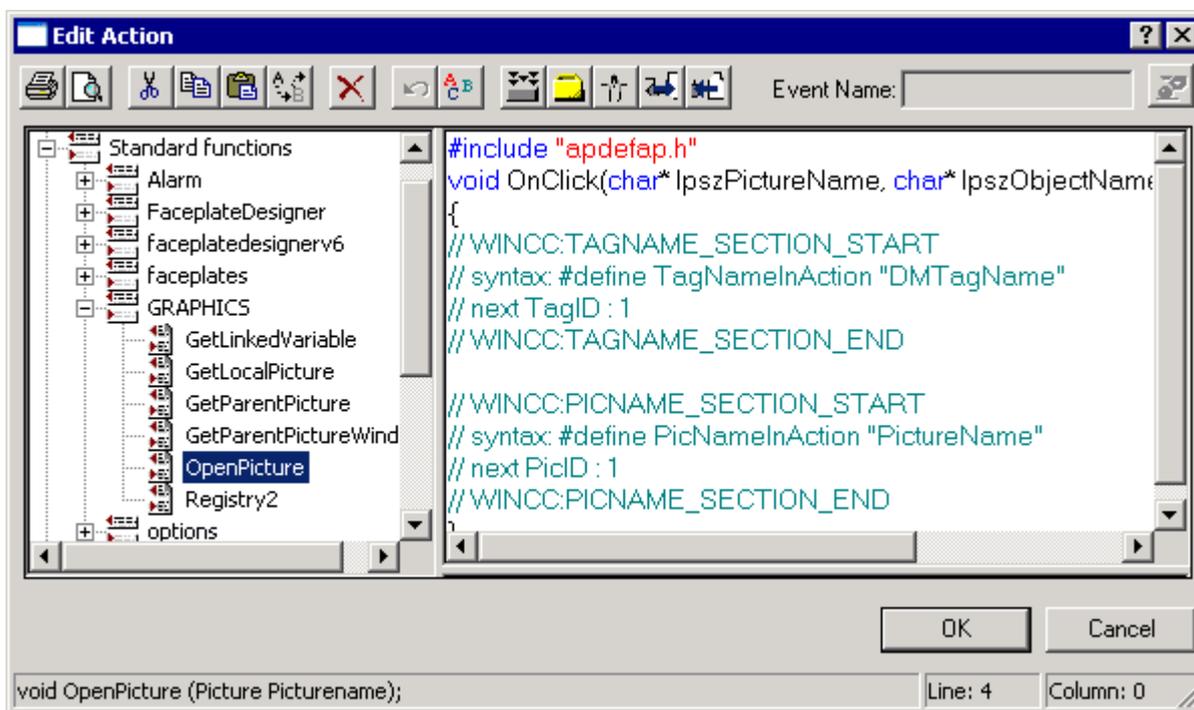
Note

The "Change Picture on Mouse Click" function is not implemented in the "Button" object which is used to change to the process screens. Instead of being output in full-screen mode, the process screen called may be visualized on the working area of the diagnostics user interface, depending on configuration data.

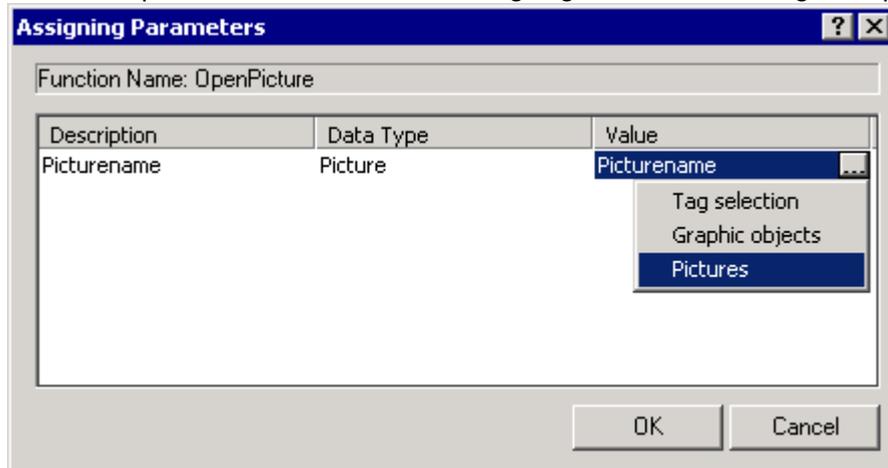
4. Select and then right-click the new button in Graphics Designer. Select "Properties" from the shortcut menu. The "Object Properties" dialog box opens.



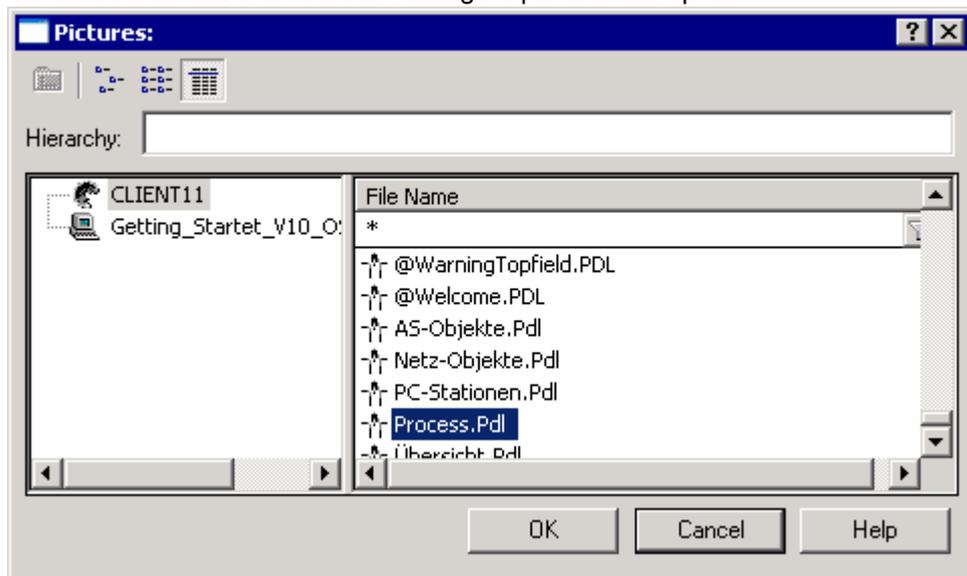
5. Change to the "Event" tab and select "Button > Mouse" from the left pane. Click in the right window to select "Mouse click". Right-click the symbol  in the same row. Select "C-Action" from the shortcut menu. The "Edit actions" dialog box opens.



6. Select the "Standard functions > GRAPHICS" folder from the navigation window. Double-click the "OpenPicture" function. The "Assigning Parameters" dialog box opens.



7. Click "..." next to the "Picturename" entry in the "Value" column. Select "Pictures" from the shortcut menu. The selection dialog for pictures will open.



8. Select your computer from the left pane, for example, "CLIENT11". The right pane shows all available screens. Select the "Process.Pdl" screen from the drop-down list and confirm your selection with "OK".
9. Close the "Assigning Parameters" and "Edit Actions" dialog boxes by clicking "OK".
10. The program outputs a message asking you to recompile the source code. Confirm this message by clicking "Yes".
11. Close the "Object properties" dialog box by clicking the "Close" icon on the title bar.
12. Save the screen by clicking "File > Save". Close Graphics Designer by clicking "File > Exit".

Starting SIMATIC Maintenance Station and initial diagnostics

3.1 Starting SIMATIC Maintenance Station

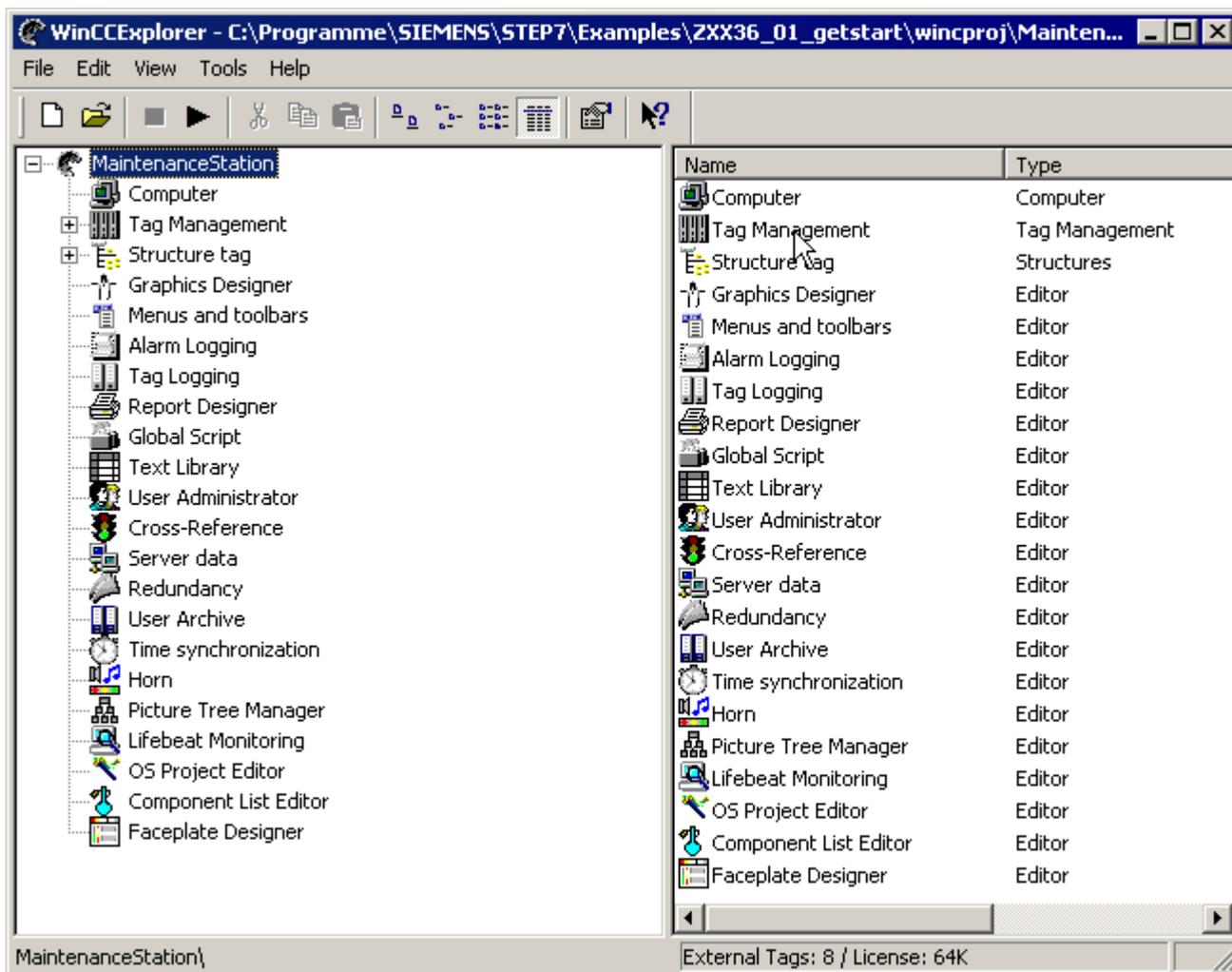
Introduction

After you have completed the configuration of project data, you can start SIMATIC Maintenance Station for operating and monitoring the process and the diagnostics functions.

3.1 Starting SIMATIC Maintenance Station

Procedure

1. In WinCC Explorer click the button  in the toolbar or select the menu command "File > Activate".



The SIMATIC Maintenance Station is started.

2. The program outputs the configured start screen of the process screens after startup.

3.2 Changing between SIMATIC Maintenance Station and the user interface of the process screens

Requirements

Configure a corresponding button on each user interface for changing between the user interfaces of the process screens and SIMATIC Maintenance Station. The chapter "Setup and configuration of user interfaces" describes the insertion of buttons.

Procedure

1. The Maintenance Station starts up with the user interface of the process screens. Click "SIMATIC MS". This action changes to the user interface of SIMATIC Maintenance Station.
2. Click the area selection button, for example, "Diagnostics". The Maintenance Station overview screen opens.

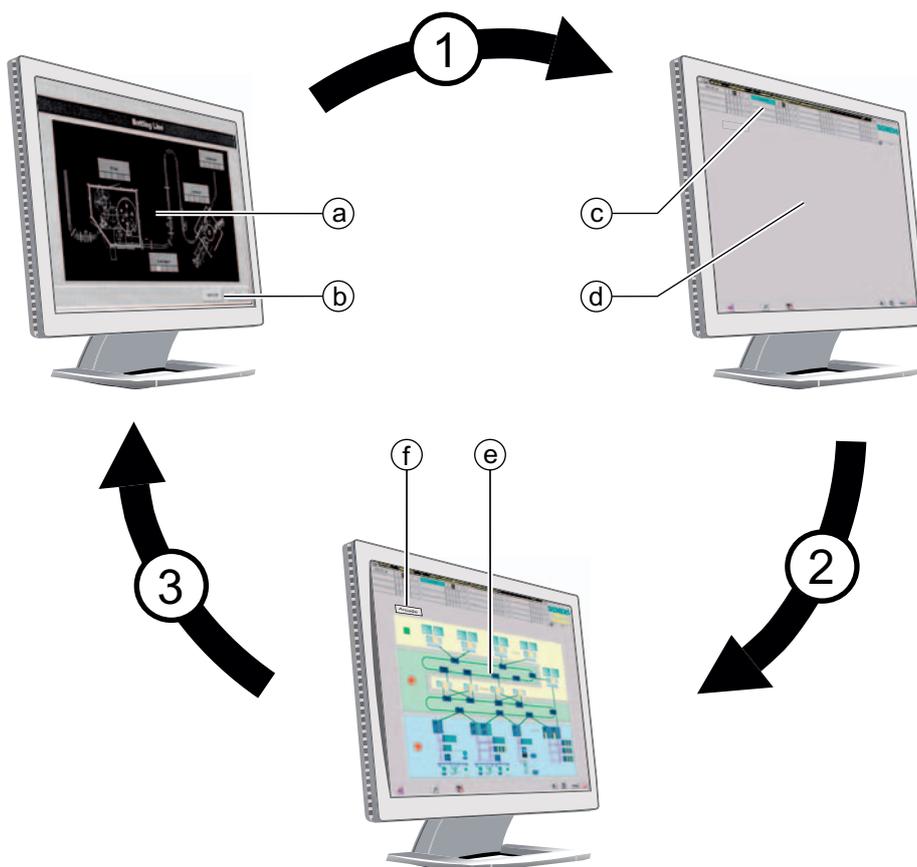
Note

In this example, the button used to change from the user interface of the process screens to SIMATIC Maintenance Station is named "SIMATIC MS". Use the button you named otherwise.

- 3. Click "Process" if the SIMATIC Maintenance Station user interface is currently active. This action changes to the user interface of the process screens.

Note

In this example, the button used to change from SIMATIC Maintenance Station to the user interface of the process screens is named "Process". Use the button you named otherwise.



- a User interface of the process screens
- b "SIMATIC MS" button
- c "Diagnostics" button.
- d User interface of SIMATIC Maintenance Station
- e Overview screen of SIMATIC Maintenance Station
- f "Process" button

3.3 User interface of SIMATIC Maintenance Station

Introduction

After you started Maintenance Station and changed to its user interface, and selected the diagnostics area using the area selection button, for example "Diagnostics", the program opens the Maintenance Station overview screen.

Note

In the sample project, you have neither created any users, nor assigned any user rights in WinCC User Administrator. For this reason, the user activating applications in WinCC neither has to log in when the process screens are output, nor when he initially selects the diagnostics area, and the program does not open a login dialog. Applications of a production plant, such as diagnostics, are usually configured to allow access of different users who are assigned corresponding authorizations.

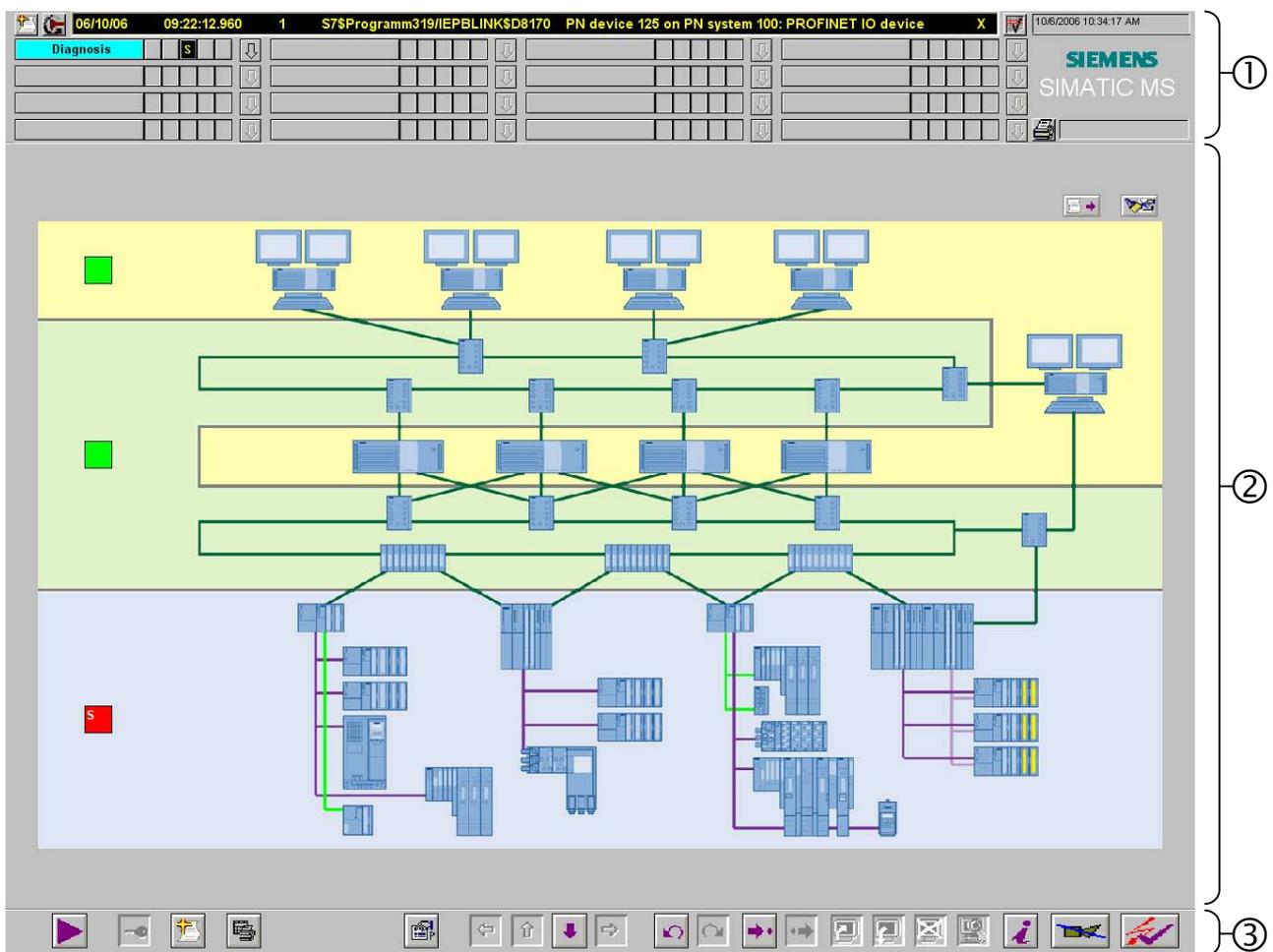
Layout of the user interface

The user interface of SIMATIC Maintenance Station is divided into three main areas:

- (1) Overview area
- (2) Working area
- (3) Toolbar area

The screenshot below shows the schematic layout of the Maintenance Station's user interface.

The screenshot does not show the button which is used to change to the process screens.



Overview area (1)

The overview area is output permanently. Its group displays for the various plant units and the message bar provide an overview of the entire system. The operator can refer to the group displays, the area selection buttons and to various toolbar buttons to react to the displayed status.

Each plant area is represented by an area selection button and a group display. The area selection button is used to change directly to the diagnostics screen at root level of the screen hierarchy of this plant area. When an active message is indicated, the operator can use the group display to change directly to the diagnostics screen which shows the originating message.

Working area (2)

The working area is used to visualize the overview and diagnostics screens of individual components for diagnostics. The working area can also be used to visualize process screens of a WinCC project which is integrated on the maintenance station and used for operating and monitoring. The process screens must also be managed in WinCC Picture Tree Manager.

The working area also outputs the faceplates, control windows, message lists and dialog boxes called by the operator.

Toolbar (3)

The permanently shown toolbar features two button sets which can be toggled by the user. These toolbar sets contain various functions which can be used, for example, for navigation in the screen hierarchy, or to call process screens and dialogs.

3.4 Diagnostics of an AS, including sublevel components

Introduction

To check the diagnostics status of an AS:

- In the overview of AS objects
- View the status details in the diagnostics faceplate.

You have various options of analyzing the AS status.

- Navigation using the status displays in the diagnostics screens. This method is deployed as an example in the description below.
- Navigation using Picture Tree Navigator. This method is used in the description as an example of PC station diagnostics.

Both methods are basically available for component diagnostics.

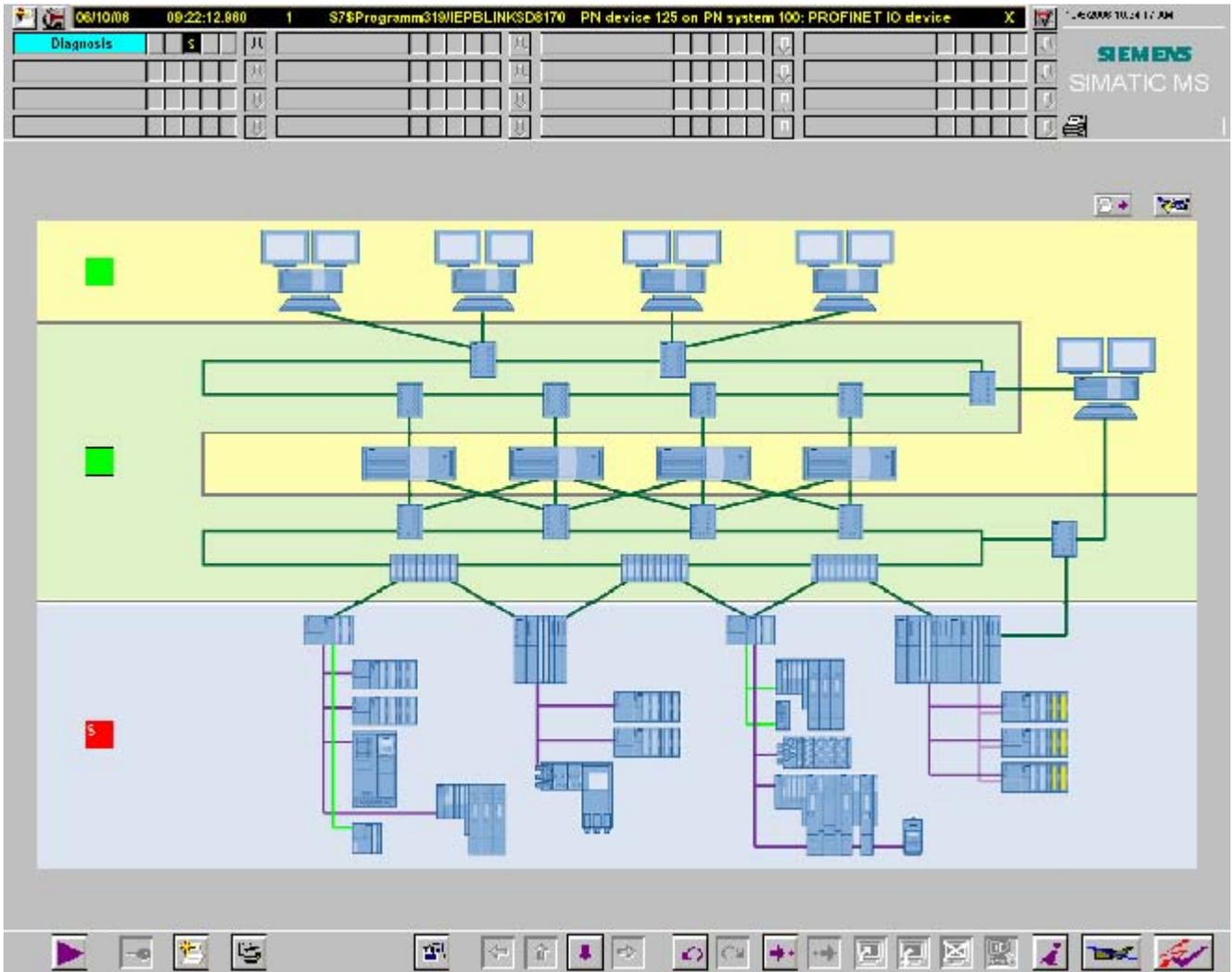
Note

The status displays in this description represent a practical example. The status display in your sample project may deviate from the symbols shown, in particular if this project does not contain any real components.

Procedure

1. Click the "Diagnostics" area selection button on the overview area. The overview screen of the Maintenance Station is displayed.
This shows the the PC stations, network components and AS objects fields, and highlights these on different colored backgrounds. The MaintenanceGroupDisplay outputs the actual status of each area, for example,

 or .



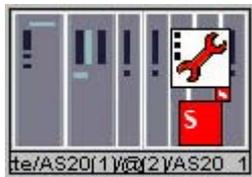
2. Click the MaintenanceGroupDisplay status display in the OS objects area which is output on a light-blue background.

The display status  indicates an active diagnostics message; the program opens the diagnostics screen which returns the cause of the message.

When the display status  is set, the program outputs the overview of AS objects.

3.4 Diagnostics of an AS, including sublevel components

- To check the diagnostics status of a stand-alone AS, select the AS objects overview and the relevant AS symbol, for example,



te/AS20(1)UR2 VAS20 1, and then select the MaintenanceStateDisplay, for example,



= "Maintenance alarm".

- The diagnostics faceplate opens with the "Ident" view. The "Component" area in the left pane of this view outputs the status of the actual component of of any existing redundant device. Component data are output on the right side.
- Check the status views in the upper area of the faceplate. In addition to the component status, these displays also return the status of requested and initiated maintenance tasks, for example,



These symbols show the following status, for example:



= A "Maintenance alarm" diagnostics message for the component is active.

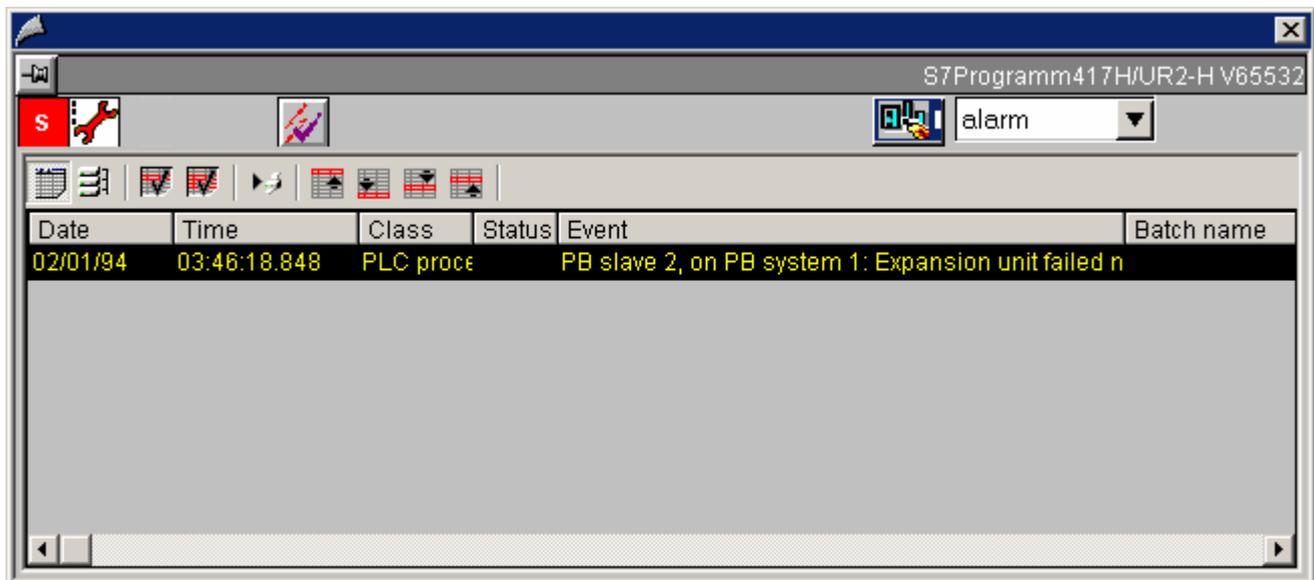


= "Call for maintenance" requested and in progress.

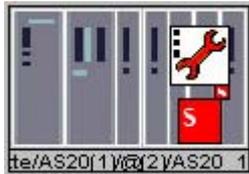


= Maintenance "Not started".

- Change to the "Messages" view to check the active messages re this component. Use the toolbar functions to analyze the message history of this component.



7. Change to the "Maintenance" view to check the status. React to maintenance requests of the system by initiating a maintenance task in this view or by setting the "Cancel" request operator. You can change the request operator to "In progress" or "Completed" status if a maintenance task is already initiated.
8. You can open "HW Config" by clicking  in order to check the hardware data of the component. SIMATIC STEP 7 must be installed on the PC used to visualize the diagnostics data and the S7 project must be available on this PC.
9. Close the diagnostics faceplate.
10. To check the diagnostics status of the sublevel components of a stand-alone AS, select the AS objects overview and the relevant AS symbol, for example,



te/AS201V02VAS20_1, and then select the MaintenanceGroupDisplay, for example, .

The program opens the diagnostics screen of the sublevel component of this AS which returns an overview of the component status.

11. To obtain detailed diagnostics data for one of these sublevel components, open the corresponding diagnostics faceplate using the MaintenanceStateDisplay, for example,



You can also use the MaintenanceGroupDisplay status display, for example, in status



, to run diagnostics on the sublevel components.

Result

The diagnostics status of the AS is checked.

3.5 Diagnostics of a PC station

Introduction

To check the diagnostics status of a PC station:

- Open the overview of PC stations
- View the status details in the diagnostics faceplate.

You have various options of analyzing the PC station status.

- Navigation using Picture Tree Navigator. This method is deployed as an example in the description below.
- Navigation using the status displays in the diagnostics screens. This method is used in the description as an example of AS diagnostics.

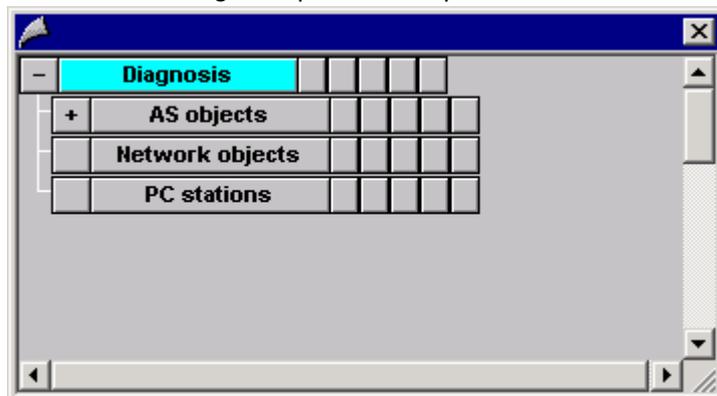
Both methods are basically available for component diagnostics.

Note

The status displays in this description represent a practical example. The status display in your sample project may deviate from the symbols shown, in particular if this project does not contain any real components.

Procedure

1. Click the "Diagnostics" area selection button on the overview area. The Maintenance Station overview screen opens.
The overview screen visualizes the PC stations, network components and AS objects fields, and highlights these on different colored backgrounds. The MaintenanceGroupDisplay outputs the actual status of each area, for example,  or .
2. Click the  symbol next to the "Diagnostics" area selection button in the overview area. Picture Tree Navigator opens and expands the tree structure down to the overviews.



3. In order to check the status of a specific PC station, click "PC Stations" in the tree structure of Picture Tree Navigator. The PC stations overview opens and outputs the diagnostics status of all PC stations.

- To check the status of a specific PC station, select the required PC station symbol, for example,



, and then select the MaintenanceStateDisplay, for example,



= "Maintenance alarm". The diagnostics faceplate opens with the "Ident" view.

- The "Component" area in the left pane of this view outputs the status of the actual component of any existing redundant device. Component data are output on the right side.
- Check the status views in the upper area of the faceplate. In addition to the component status, these displays also return the status of requested and initiated maintenance tasks, for example,



These symbols show the following status, for example:



= A "Maintenance alarm" diagnostics message for the component is active.



= "Call for maintenance" requested and in progress.



= Maintenance "Not started".

- Change to the "Messages" view to check the active messages re this component. Use the toolbar functions to analyze the message history of this component.
- Change to the "Maintenance" view to check the status. React to maintenance requests of the system by initiating a maintenance task in this view or by setting the "Cancel" request operator. You can change the request operator to "In progress" or "Completed" status if a maintenance task is already initiated.
- Close the diagnostics faceplate.

Result

You checked the diagnostics status of the PC station.

For further information on the views of the diagnostics faceplate and maintenance status management, refer to the SIMATIC Maintenance Station documentation, chapter "Working with SIMATIC Maintenance Station".

3.6 Viewing diagnostics messages in the sample project

Introduction

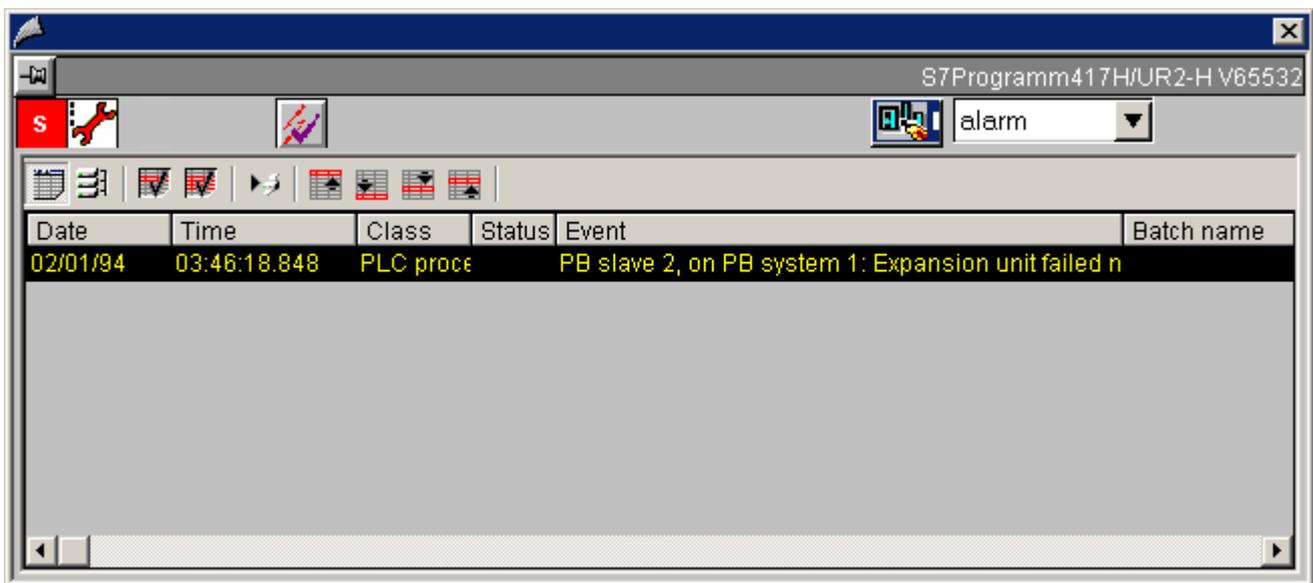
Maintenance Station diagnostics returns diagnostics messages, and information about operator actions and maintenance requests of the components in the status displays. You can obtain diagnostics data of a specific component by viewing the corresponding messages in the "Messages" view of the diagnostics faceplate. The messages can be acknowledged and managed in this view.

Note

The diagnostics messages shown in this description represent practical examples. The diagnostics messages output in your sample project may deviate, in particular if this project does not contain any real components.

Procedure

1. Select the "Diagnostics" area on the Maintenance Station. The overview screen opens.
2. Click the MaintenanceGroupDisplay status display in one of the three areas of the overview screen, for example,  in the AS objects area. The corresponding overview opens, for example, the "AS objects overview".
3. Click a component symbol in the MaintenanceStateDisplay in the overview, for example, . The diagnostics faceplate of this component opens. The "Ident" view is output by default.
4. Select the "Messages" entry in the selection field.



5. The "Messages" view returns all active messages relating to this component. The toolbar provides various functions such as message selection and print commands. For further information, refer to the Maintenance Station documentation, section "Working with SIMATIC Maintenance Station > Control elements for diagnostics > Overview of functions in message lists".

Result

The diagnostics faceplate outputs component-specific messages relating to diagnostics, control actions and maintenance requests.

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